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ORIGINAL LECTURES.

THE TREATMENT OF THE CHRONIC MYELITES.[1]

A Clinical Lecture,

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GENTLEMEN: If it were incumbent on me to give the history of the diseases of the spinal marrow, this lecture would be far too long, for on no subject has so much study been spent the past few years as on these spinal inflammations. Clinical medicine and pathological anatomy, based on physiological and anatomical studies which have had the spinal marrow for their subject, have enabled us to trace not only the tableau of diseases of the spinal cord and of its membranes, taken collectively, but also the various alterations which affect the different bundles composing the medullary axis. Unhappily, therapeutics has not followed the unceasing progress of clinical study, and we are still obliged, as far as treatment is concerned, to make use of the same medicinal means heretofore employed, and which are most generally inefficacious, so that, in a great number of cases, the idea of incurability accompanies the diagnosis of affections of the spinal medulla.

Nevertheless, as the medullary diseases are frequent; as, moreover, they have a long and progressive course, and will often claim your care, I have thought best to set forth the kinds of treatment most in use, recognizing at the same time their inefficacy. This inefficacy is easily understood when you take into account, on the one hand, the position of the spinal cord, which, surrounded by its membranes, is with difficulty reached by direct treatment, and, on the other hand, the very structure of the cord, which in such small volume comprises nerve-centres and conductors, that establish a direct communication between the brain and the mixed nerves.

The least alteration in the histological integrity of the spinal axis must then profoundly modify the functions of the parts over which this portion of the cord presides, and notwithstanding that we see tumors, even of considerable size, develop without apparent symptoms in certain portions of the cerebral mass, the least disorder, scarcely appreciable to the sight, in the substance of the spinal cord, will make itself manifest by symptoms of great gravity. This fact explains why it is only since the application of histology to medicine that we have been able accurately to diagnosticate the affections of the medulla, since in most cases the pathological alterations, invisible to the naked eye, can only be studied by means of high powers.

Standing, as we do, on therapeutic ground, our study of the myelites may be considerably abridged; for, directing our attention to the processes which determine medullary diseases, therapeutics need not distinguish the different myelites which are called systematic myelites, such as sclerosis of the posterior columns, sclerosis of the lateral columns, sclerosis of the anterior cornua, which clinical medicine and pathological anatomy have described as special morbid entities. What we have really to oppose is the connective-tissue induration which produces these pathological changes, and the therapeutic means to employ are the same in sclerosis of the posterior columns, and in sclerosis of the lateral columns.

When we take a general survey of the diseases of the spinal marrow, we find that they may be referred to three principal types. In the first group are placed the different degenerations which affect the medullary axis and its envelopes (cancer, syphilis, etc.); in the second, we meet the same alterations which we have studied in the preceding chapter on apoplexy, *i.e.*, the rapid and sudden disorganizations of the spinal cord (spinal hemorrhage, spinal *ramolissement*), produced by rupture, or serious lesion of the spinal bloodvessels. These are veritable medullary apoplexies. All the alterations of the third group have for their origin a hyperæmic and inflammatory process. It is with this last group, which is the most frequent, that we are now especially concerned; and if, in the anatomo-pathological details on which I am about to enter, I seem to vary somewhat from my customary method, it is because these details have, from the standpoint of therapeutics, a preponderating importance.

Inflammation of the spinal medulla presents itself under two distinct forms: in one, the hyperæmia affects all the constituent parts of the cord, and causes their speedy disorganization; in the other, the inflammatory process, whether primitive or secondary, attacks only the connective-tissue element, determining a hyperplasia of the neuroglia, which speedily chokes out and destroys the nervous elements.

Here, then, we again meet with that great division of inflammations which we have already seen produce so much mischief in the kidneys and in the liver, and just as we have interstitial and parenchymatous nephritis and hepatitis, so also we have interstitial and parenchymatous inflammations of the spinal cord.

As for parenchymatous myelitis, I have shown in my *thèse d'agregation* on acute myelitis the march of the inflammatory process, and I have dwelt especially on the first period called the stage of tumefaction, and which results not only from the vascular hyperæmia, of which the medulla is the seat, but also from the swelling of the neuroglia and the nervous elements.

In interstitial myelitis, the neuroglia appears alone to be affected. By the organization of its cellular elements, under the influence of an indurating process, it chokes out the nerve-cells or tubes. Vulpian, in his remarkable lessons on the diseases of the spinal cord, has dwelt at great length on the pathogeny of this sclerous process, especially under the head of locomotor ataxia, and he adopts the view that the proliferation depends on primitive irritation of the nervous elements. But this is not the only opinion advanced: some, as Ordonez, maintain that the vascular alterations are the primitive cause of the sclerosis; others affirm that the hyperplasia of the neuroglia is primitive. I believe that both hypotheses are correct, and that, from a therapeutic standpoint, we ought to make a great account of them.

What can medicinal agents accomplish in cases of parenchymatous or interstitial myelitis? In parenchymatous myelitis we cannot do much, except in the period of tumefaction, and as we cannot influence either the neuroglia or the nerve-tubes, our sole action

[1] Translated from advance sheets by E. P. Hurd, M.D., of Newburyport, Mass.

must be on the circulation of the cord. When, however, the exudation has taken place, and the medullary substance is destroyed, it will be impossible for us to repair the disorders which result from the softening. In the case of interstitial myelitis, we are impotent to arrest the hyperplasia of the neuroglia, and the disorders which are its consequence, and all that we can do is to diminish the nervous irritation which this hyperplasia determines, or the hyperæmia of which the latter is the result.

To sum up, then, our therapeutic endeavors must first be directed to combating the primary causes of the inflammation; secondly, to opposing the hyperæmia of the cord. Apart from this twofold duty, we are powerless, and the utmost that we can do is to mitigate the consequences which result from the medullary changes, and which are so detrimental. I shall briefly review the various therapeutic agents which we can employ, then make special application of them to the different spinal affections.

To fulfil the first of these indications is often easy, and in the case of myelitis by traumatism or by compression, it will be sufficient to remove the foreign body which irritates or injures the cord to cause disappearance of the resulting inflammatory symptoms. In the case of Pott's disease, with lesion of the vertebræ, special surgical appliances are necessary to remedy the spinal deformity which produces compression on the cord, and causes paralysis. In the case of syphilitic gummata and exostoses, the specific treatment will sometimes remove the inflammation and its products.

In other cases, we can do much to prevent inflammatory mischief by hygienic measures. Whether the medullary sclerosis be primitive and the result of repeated congestions of the spinal cord; whether it be secondary, from irritation of the nervous elements (Vulpian), it is not the less true that every excessive exercise of function on the part of the cord and its integral divisions may be a predisposing cause of sclerosis. Therefore, forced marches, too prolonged muscular labors, may determine veritable myelites, which are described under the name of myelitis from *strain* (*surmenage*), and which are observed in animals as well as in men. The abuse of the genital functions, and, in particular, coitus while standing, enter into the same group, and have often been invoked as the determining cause of *tabes*. You readily see, then, how much may be done by hygienic measures of prevention when once these causes are known, and I pass to the second indication, which is to combat the medullary hyperæmia.

The circulation in the spinal cord is very active; a multitude of venous and arterial vessels from numerous sources form around its bony canal and membranes a rich vascular plexus, which it is difficult for us to reach by any direct means. As, however, the spinal vessels and the vaso-motors which innervate them can be affected reflexly (vide Vulpian, *Appareil Vaso-Moteur*, t. ii. p. 49), you readily understand that by an action limited to points more or less distant from the spinal axis we may modify the circulation in the cord, and it is on this action that revulsive medication is based; a kind of treatment which is first in importance in spinal affections.

Although tradition from the dawn of medical history has affirmed the beneficial influence of energetic revulsion in diseases of the spinal cord, in our time, certain physicians have denied this favorable action, and have maintained that revulsion increases the suffering of patients without ameliorating their condition. This, gentlemen, is a mistake, and facts of experimental physiology confirm most unequivocally the results which clinical medicine has accumulated during the ages.

What, then, has experimental physiology taught us on this point? From a great number of conclusive observations, I select the following: You are all familiar with the results which Vulpian obtained in electrizing a nervous branch communicating with the intrathoracic chain of the great sympathetic; there was most marked contraction of the bloodvessels of the region of the spinal cord, from which was derived the intercostal nerve with which the nervous filament electrized was in relation. In his numerous and remarkable researches on the circulation of the spinal cord, Brown-Séquard, after tying or irritating the nerves of the kidneys or suprarenal capsules, observed a contraction of the bloodvessels of the cord on the side which was irritated. Frinberg obtained a paralysis, *a frigore*, in a hare, on spraying with ether the skin of the back which he had previously shaved. As you are well aware, on this very reflex action the theory of so-called *reflex* paralysis has been based, also of myelitis and meningo-myelitis *a frigore*. Without entering into the long discussions which have arisen on this subject, it has been determined both by experiments on animals and by clinical experience, that external excitations made on the skin do modify the circulation in the spinal cord and its envelopes. Let us now examine the agencies utilized in revulsive medication in these affections. Everything has been employed, from frictions with irritant ointments to the cautery and moxa. The latter revulsives, which were till recently the most in use, are to-day being abandoned, being advantageously replaced by punctiform galvano-cauterizations. The use of caustic potash or Vienna paste is likely to be attended with certain inconveniences, and in particular, that of producing suppurating sores over the vertebral column; these last some time, and are not without danger to patients who are obliged to maintain the dorsal decubitus, and whose skin performs its functions badly by reason of trophic disturbances determined by the medullary affection.

The electrical points on the contrary, rendered so easy of management by the invention of the cautery of Paquelin, present all the advantages of energetic cauterization without the least inconvenience. Moreover, these cauterizations, which do not cause troublesome sores, may be renewed every eight days. You practise them along the spinal column, right and left of the middle line, punctiform cauterizations in parallel series, and in number varying according to the exigency of the case. These cauterizations are preferable to vesication by the cantharidal blister, for the vesicatory, besides removing the epidermis, determines trouble in micturition, a function generally more or less disturbed in diseases of the spinal cord. In certain cases the seton may be employed; this is one of the most powerful revulsives that I know of, but it is of especial utility in affections of the brain and upper portions of the spinal cord.

To the revulsive treatment we may join the application of cold, which also, as we have seen by the experiments of Frinberg, may modify the circulation in the spinal cord. But in order to obtain durable effects, it is necessary to prolong the applications of ice, and this is always inconvenient. Pulverizations of ether by the spray apparatus, if they could be continued sufficiently long, would be indicated in these cases where the physiological effect of cold is desired.

Hydrotherapy applied to the treatment of medullary affections, is a two-edged sword, which must be managed with great prudence. In fact, it does not cause anæmia of the spinal cord. In the majority of cases it congests it, and this it is which explains the successes and the aggravations which have been obtained. Suc-

cesses, when one has to do with those paralyses *sine materia*, which appear in the course of neuroses, or those which have a dyscrasic origin, and which accompany diphtheria and other acute diseases, also those paraplegias observed in anæmia and chlorosis; aggravations, when the indication is to combat inflammatory and sclerous processes, for in these cases hydrotherapy, by inducing congestion of the cord, favors rather than opposes the hyperplasia of the medullary neuroglia.

To avoid these disadvantages, warm douches have been advised, or tempered douches, as Beni Barde has recommended, but it is always important when you employ either cold douches or tempered douches, to examine with care the cutaneous sensibility, often strangely perverted in patients affected with spinal diseases.

We have seen that electricity applied over the bony canal of the spinal cord modifies the medullary circulation; from this has resulted the employment of electricity in the treatment of congestions and inflammations of the cord. Two methods are in current practice. In the one you make use of faradic currents (here the portable battery does good service), and with the electric brush you make energetic revulsion along the vertebral column. I have seen happy results from this faradic treatment in tabes dorsalis. In other cases you apply galvanic currents up and down the spine; there has been much dispute about the direction of these currents, some being of opinion that ascending, others that descending, currents are preferable. I believe that the direction is a matter of little consequence, and that one may use indifferently either ascending or descending currents. To cauterizations, to applications of ice, to electricity, we must add certain internal medicaments, of which the purpose is to diminish the congestion, or the connective-tissue hyperplasia which results from it. As for certain of these medicines, their application is the result of the knowledge of their physiological properties; as for others, empiricism has led to their adoption and usage. We will pass rapidly in review the greater part of these remedies.

The curious property which ergot of rye possesses of causing contraction of the capillary network has been utilized in affections of the spine; and Brown-Séquard is one of the most strenuous partisans of this therapeutic employment of ergot. The results which I have obtained from this medicament in spinal sclerosis have not answered my expectations, and I believe that the use of ergot in these diseases is based on theoretical considerations rather than on sound clinical experience.

Ergot is given in substance or in the form of ergotine or ergotinine. The hypodermic method of administration may be adopted, injections being made over the spinal region with ergotine or ergotinine. The dose of the latter ought not to exceed two milligrammes (one-thirtieth of a grain), and one milligramme is enough for an ordinary dose.

Strychnia has been recommended in the treatment of the diseases of the spinal cord, but, as Vulpian remarks, the therapeutic action of this alkaloid having no influence on the morbid process, the cause of the paralysis, and strychnia, moreover, being incapable of removing the disorders which result from the inflammation, no curative effects can be expected from this medicament in acute or chronic spinal affections. I go further, and add, that often the action of this drug is injurious by reason of its irritating influence on the medullary axis. It is best, then, to be very chary in the use of strychnia; and even to discard it altogether in congestions of the cord, and never to use it except in the case of paralysis called essential, or *sine materia*.[1]

It has been claimed that iodide of potassium has also an action on the circulation of the spinal cord, and that it is capable of anæmiating it. I believe that the good effects which have been obtained from this medicament are not the result of the influence of the iodide on the circulation, but of its specific and resolvent action on products of a syphilitic nature. A great number of tabetic patients are syphilitic, and are therefore likely to be benefited by the iodide.

Bromide of potassium has an important *rôle* in the treatment of diseases of the spinal cord, not because it has any direct effect on the phlegmasic process acute or chronic, but because it tends to diminish the excito-motor power of the cerebro-spinal axis; the bromide, then, is indicated whenever signs of irritation or excitation of the spinal medulla supervene.

Empiricism has made great account of two medicinal agents in the treatment of medullary sclerosis, nitrate of silver and phosphorus.

Nitrate of silver was recommended for the first time in 1861, by Wunderlich,[2] but it is especially to Charcot and Vulpian that the employment and popularity of this remedy in locomotor ataxia are to be ascribed.

Nitrate of silver is given in pills of one centigramme; at first one, then two, then three, then four of these pills a day, the last dose never to be exceeded. This medication, which is only of utility after the inflammatory symptoms have subsided, may give you in some cases amelioration and even cure, if the observations reported by Wunderlich, Rosenthal, Hammond, etc., may be relied on; but it is well to bear in mind that these are exceptional cases, and for my part I have to

[1] Fouquier has remarked that when strychnine is given to paraplegic patients, convulsive manifestations in the paralyzed members often ensue. When the spinal cord is no longer in communication with the brain, its excito-motor power is augmented, and strychnia greatly enhances this reflex excitability. When, in a frog, you cut the spinal cord transversely, and inject strychnia, it is in the inferior members that the first effects of the poison are seen; but as Vulpian well observes, in order that this action may be produced in paraplegic persons, it is necessary that reflex excitability be preserved in the paralyzed limbs. (Vulpian, *Substances toxiques et médicamenteuses*, Paris, 1882, p. 580.)

[2] Siredy noted the good effects of bromide of potassium in a case of locomotor ataxia; effects already witnessed by Vulpian. His dose was two grammes, gradually increased to six grammes each day.

Wunderlich was the first to administer nitrate of silver in this disease. Out of five cases treated by him, in 1861, there was one recovery. The year following Charcot and Vulpian published a monograph on the subject. They administered the nitrate in pill form, one centigramme; at first two, then three. and seldom more than four pills a day. Of five cases treated by them with this remedy, there was in all great amelioration; the lightning pains disappeared, and the muscular movements gained in force and precision.

After the publication of Charcot, Moreau, then Beau reported cases of cure by nitrate of silver. In Germany, Küchenmeister reported observations in which the medicament produced no effect. In 1863, Wunderlich published in *Archiv der Heilkunde*, another memoir in which were recorded cases of amelioration and cure under medication by nitrate of silver. Rosenthal, Hammond, etc., have also noted recoveries in ataxia from nitrate of silver.

Teissier, of Lyon, after showing that the locomotor ataxia described by Duchenne, of Boulogne, and the tabes dorsalis of Romberg, are one and the same disease, is emphatic in his praises of nitrate of silver in this malady. The results are variable, sometimes there is improvement in the power of muscular coördination, sometimes only the painful manifestations are relieved.

(Wunderlich, *Archiv der Heilkunde*, 1861–1863; Charcot and Vulpian, *Bull. de Thér.*, t. 62, p. 481; Moreau de Tours, *Union Méd.*, Oct. 1862; Beau, *Bull. de Thér.*, 1863, t. 64, p. 315; Trousseau, *Bull. de Thér.*, t. 64, p. 82; Hammond, *On Diseases of the Nervous System*, p. 709; Tessier, *De l'ataxie loc. et de son traitement*, 1864.

confess that I have never obtained, even from the prolonged use of nitrate of silver, any results worth mentioning.

Do not forget that the medullary sclerosis for which nitrate of silver is employed, does not progress in a uniform manner, and that it presents periods of ascension, and periods of arrest; it is easy then to understand that according to the precise time in the evolution of the disease in which the medicament is administered, amelioration or aggravation of the symptoms may be observed.

How does the remedy act? We are wholly ignorant. Does imbibition of the silver salt by the neuroglia hinder the proliferation of the latter? Does the medicine act on the nervous elements themselves? These are questions which we cannot answer.

I was the first (in 1868) to propose the use of phosphorus in locomotor ataxia.

Delpech had several years before (in 1863) applied phosphorus to the treatment of certain paralyses from chronic poisoning, and in particular to that produced by sulphide of carbon. I have continued this phosphorus medication, and, although I have never observed a cure by this remedy, I have in many instances noted an amelioration, characterized by a sensation of increase of force, and diminution of incoördination. But the same reservations which I made *à propos* of nitrate of silver, ought to be made here, and one may well ask if in many cases the amelioration obtained is not rather the consequence of the natural march of the disease than of the action of the medicine. My pupil, Dr. Eugene Lemaire, has published in his remarkable thesis on the employment of phosphorus the greater part of those observations.[1]

This phosphorus medication needs to be closely watched, and I am going to enter into certain details which appear to me to be necessary. When I commenced my experimentation with phosphorus, I immediately stumbled against a difficulty, the unreliability and the danger of the preparations in use; and I proposed to substitute for the phosphorated oil of the codex,[2] solutions of phosphorus in chloroform, of definite strength, and I also had capsules made containing one milligramme ($\frac{1}{60}$ grain) of phosphorus. But attention was awakened on this point, and thereupon successively appeared the monographs of Mehu and Vigier.

Mehu showed that while the *oleum phosphoratum* of the codex, as ordinarily prepared, is of uncertain strength, a sufficiently good solution might be had by heating the oil very hot, and henceforth unalterable capsules of phosphorated oil might be obtained, each containing one milligramme of phosphorus. Vigier, by his studies on the metallic phosphides, showed the advantage which might be derived from these preparations, and he introduced phosphide of zinc into therapeutics.[3] These capsules of phosphorated oil, and Vigier's pills of phosphide of zinc, are to-day the preparations of phosphorus most in use.

When you prescribe phosphide of zinc, do not forget that four milligrammes represent one milligramme of phosphorus. Whether you make use of granules of phosphide of zinc containing four milligrammes, or capsules of phosphorated oil containing one milligramme, you ought to observe the following rules: Commence with one pill, or one capsule, and increase gradually till ten are taken in the twenty-four hours; continue this dose three or four days, then suspend the medicine for five days, to renew the treatment by commencing with one capsule. These interruptions in the phosphorus medication are necessary in order to avoid accumulation of action, and to permit the medicine to be eliminated. In following these rules the phosphorus treatment can be continued with safety for months or for years. I add that in order to render the medicament more tolerable to the stomach, you would do well to order the phosphorus to be taken at meal time, you will then avoid in great part the eructations of *lucifer-match* taste which follow the administration of this remedy. There is another caution to be observed in prescribing phosphorus in tabes. It will not do to give it when there are any symptoms indicating any considerable degree of congestion or irritability of the nervous system, nor in the case of gastro-intestinal troubles; moreover, to get any good from the phosphorus treatment it must be continued a long time.

On what is this action of phosphorus in locomotor ataxia based? Here, as in the case of nitrate of silver, we are obliged to make hypotheses. My own theory is the following. Ranvier, in his experiment with phosphorus, has shown that when this metalloid is inserted under the skin of animals, you do not provoke inflammatory disorders, but you determine arrest of the formative and nutritive operations of the histological elements. It is possible that in the spinal cord phosphorus thus opposes the proliferation of the neuroglia; but, I repeat, this is only a hypothesis, and I give it for what it is worth.

Now that we have taken a general survey of the different modes of treating medullary affections, let us study the indications of treatment in the different forms of myelitis. I cannot here speak of all the varieties of spinal inflammation — their number is considerable. You will find in the work of Grasset a table which gives a good summary of all the kinds, and which will enable you to judge of their number. I shall only call your attention to those cases which you will oftenest be called to treat, the congestions of the spinal cord, the meningo-myelites, the myelites by compression, sclerosis of the posterior columns, disseminated sclerosis, and, in fine, that known as atrophic paralysis of infancy, or sclerosis of the anterior cornua.

The congestions of the spinal cord are frequent, and their causes are multiple; they do not generally entail anything more than a relative incapacity or paresis of the lower extremities, a paralysis in its nature curable. As in every hyperæmia, the first indication is to suppress the cause of which it is a manifestation; and whether the medullary hyperæmia depends on rheumatism, on uterine or hemorrhoidal congestion, on too prolonged dorsal decubitus, on exaggerated fatigue, or on sexual excesses, your therapeutics should be varied to meet the causal indications. Rheumatism is one of the most frequent causes of congestion of the spinal cord, and, for my part, I remember to have observed, with Dr. Lasegue, during my earlier student days, a very curious case of sudden paraplegia in a kitchen maid; it was a result of acute articular rheumatism, and disappeared when the joints became affected. In these cases you understand the utility of dry or wet cups along the spine, of steam baths, and salicylate of sodium. At other times you will have to deal with simple paralysis, *a frigore*, reflex paralysis from the impression of cold on the cutaneous surface. Here the treatment is different; besides the ordinary

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[1] Dujardin-Beaumetz, sur l'Emploi du phosphore en médeciné et en particulier dans l'ataxie locomotrice progressive. *Bull. Gén. de Thér.*, 1868, t. lxxiv. pp. 16, 157, 203, 302.

N. Gueneau de Mussy, On the Treatment of Mercurial Trembling by Phosphorus. *Gaz. des Hôp.*, 1868, Nos. 48 and 50.

Lemaire (Eug.), On the Therapeutic Employment of Phosphorus in Certain Affections of the Nervous System. *Thèse de Paris*, 1875, No. 143.

[2] The phosphorated oil of the codex contains two grammes (ʒss) of phosphorus to one hundred grammes (ʒiij, ʒijss) of oil of sweet almonds, and is an uncertain preparation.

[3] Vigier, On the Therapeutic Employment of Zinc Phosphide (*Bull. Gen. de Ther.*, t. lxxiv. p. 268).

revulsives, such as blisters to the spinal region, you may employ sudorifics, and particularly pilocarpine, which, by the cutaneous congestion which they produce, have a favorable effect on the paralysis. Prolonged fatigue, by reason of the physiological congestion which it occasions in the spinal cord, is a factor in the etiology of this affection; here you must enjoin absolute rest, as well as revulsion. This word *rest* leads me to speak of the effect of dorsal position in the affections of the cord. Lying a long time on the back induces, as you well know, passive congestion of the spinal medulla, and it is probably to this congestion that we are to attribute the nocturnal erections which take place during sleep. You understand, then, that this fact has a certain influence in affections of the cord, and you will see patients predisposed to spinal congestion who, by reason of the dorsal decubitus of the night can scarcely support themselves on their feet in the morning. This paresis disappears after standing a short time, with disappearance of the congestion which caused it.

This fact has a certain importance, and Brown-Séquard has derived from it therapeutic hints. In anæmia of the spinal cord, he directs the patient to lie on his back, while in spinal hyperæmia he is to lie prone on his belly.

Thus far I have said nothing of bloodletting, which has been much employed in affections of the spine. Very much vaunted formerly by Ollivier, who advised in these cases, besides general bleeding, leeches to be applied in great number to the dorsal region, and wet cups, this antiphlogistic treatment is to-day well-nigh abandoned. At the same time, wet and dry cupping may render considerable service in active congestions of the spinal cord, and it is a therapeutic measure not to be neglected.

Meningo-myelitis, whatever may be the cause, is one of the medullary affections the most frequently observed. It is characterized by two marked symptoms; first, by pains, often severe, coming in paroxysms, and bearing considerable resemblance to the *douleurs fulgurantes* of ataxia and to sciatic neuralgia; secondly, by impotence, more or less complete, of the inferior extremities, with conservation of sensibility, the external portions of the medullary columns being alone affected. Here energetic revulsion is indicated, preferably by cauterizations along the spine. You must also assuage the pain, for this is one of the symptoms of which the patient most complains. All the various remedial measures which I spoke of under the head of the neuralgias will have their place. Double sciaticas ought always to make you suspect meningo-myelitis. But the most effectual means for allaying the pain is the subcutaneous injection of morphia, and, in fact, this alone will in many cases bring relief. You must also watch the functions of the bladder and intestines, which are often profoundly disturbed in these cases of paraplegia due to spinal disease.

As for the condition of the bowels, we have either obstinate constipation or fecal incontinence. The constipation will yield to drastic purgatives; these medicaments not only restore regular stools, but they act as revulsives and may thus modify the circulation in the cord and its membranes. In certain cases the most violent purgatives cannot overcome the constipation; this is because the rectum is paralyzed and allows itself to be distended beyond measure by fecal accumulations. Here you will have to break up the fecal mass with the finger, or scoop it out with a spoon in order to clear the rectum.

As for fecal incontinence, the most scrupulous pains must be taken for cleanliness; nothing is more important in myelitis, for trophic troubles are of common occurrence, and often, in spite of all your care, extensive bed-sores will form over the sacrum, and even around the anus, as a consequence of dorsal recumbency. In these cases the fracture-bed will render great service; it enables you readily to dress the bed-sore, and to vary the position of the patient.

The disorders which meningo-myelitis inflicts on the urinary organs are still more serious. At first the patient often experiences some tenesmus, due to spasm of the bladder, tenesmus which soon gives place to retention or to incontinence. For the retention you will be obliged to use the catheter, notwithstanding the liability to cystitis with purulent urine which it occasions. For the latter evil, and to prevent putrid absorption, it will be necessary to wash out the bladder with solutions of carbolic, boracic acids, resorcine, etc., at the same time giving internally benzoic acid, oil of sandalwood, turpentine, copaiba, boldo or buchu, which are antagonists of fermentation.

If retention of urine has inconveniences, incontinence has quite as grave; the incessant flow of urine irritates the genitals, soils the bed-clothes and the clothing, and augments causes already existing of local gangrene and erysipelatous inflammation of the skin. In the case of male patients, urinals have been perfected by the use of which they can escape these accidents, but it is not so with the paraplegic female, who must suffer all the ill consequences of the incontinence.

When the inflammatory symptoms have subsided, then much can be done to restore the power of movement to the lower extremities. Here hydrotherapy, massage, frictions, electricity, may render real service; but these measures should never be employed in the acute stage of the affection, for they would cause aggravation of the disease.

Myelitis by compression demands the same local treatment as meningo-myelitis; it demands also a special treatment directed to the removal of the cause. If the latter be cancer of the cord or its membranes, we can do nothing but alleviate pain by hypodermic injections of morphia. If it be Pott's disease, we can by an appropriate plaster jacket, as Sayre, of New York, recommends, do much toward straightening out the vertebral column, and removing the deformity which is the cause of the compression. If the cause be syphilis, nothing can be more serviceable than the injections of peptonate or albuminate of mercury, which not seldom cause the myelitis and paraplegia rapidly to disappear.

I come now to the treatment of the medullary scleroses, and especially of the typical form oftenest met with in practice, progressive locomotor ataxia. This word *progressive*, by which Duchenne characterized the pathological entity which he described, indicates the little control which therapeutics has over this morbid condition, and in so designating it, Duchenne pronounced a sentence of incurability. Since then, therapeutics has not lifted this sentence, and it is best to bear in mind that this affection is almost always above the resources of our art. Nevertheless, ataxic patients have been cured, and are now being cured; but these are exceptional cases, and despite periods of calm and respite which may last months and even years, the ataxic individual sees his disease progress slowly or by bounds.

These cases of cure concern more especially syphilitic patients. Without adopting altogether the opinion of Fournier, who will have it that all ataxic patients are syphilitic, it is nevertheless well to remember, that in a great number of cases syphilis is the cause of tabes, and when the affection is taken at the commencement, an appropriate antisyphilitic treatment may cure it. But it will not do to take for granted that it is always so; and in a great many instances in which, in syphilitic patients, there exists some form of medullary sclerosis,

the most energetic and the most violent treatment will not favorably modify the march of the disease. However, the fact of syphilis coexisting with tabes dorsalis, always gives a hope and a chance for your patient, which you ought to improve.

There are neuropathies which sometimes present ataxic symptoms; these false ataxies are often completely cured by hydrotherapy, or a course of treatment at the thermal springs.

The first condition of treatment of sclerosis of the posterior columns, is to avoid all circumstances which tend to provoke congestion of the cord, a congestion which almost always precedes the hyperplasia of the neuroglia. You should then prohibit, in the case of these patients, prolonged muscular fatigue (a fatigue which is the more easily induced the more voluntary force the patient is obliged to expend in his movements); sexual intercourse ought also to be forbidden. You should also have recourse to energetic revulsion, and in particular to punctiform cauterizations along the vertebral column, and this especially when signs of irritation or congestion of the cord appear. You can also use in the periods of remission nitrate of silver or phosphorus, following, in the case of phosphorus, the rules which I have laid down. You will almost always obtain with this phosphorus medication an amelioration, more perceptible to the patient than to yourselves; he will tell you that he feels stronger, and that he has a better command of his limbs, at the same time that an examination does not disclose any real progress. I have never observed genital excitation following the administration of phosphorus, and I very much doubt the aphrodisiac properties which have been ascribed to this medicament.

The lightning pains are among the most formidable complications of the disease; here our "sheet-anchor" is hypodermic morphia, despite the fact that ataxic patients are very likely to become morphomaniacs (a great many at the present day are such). Sometimes extremes of temperature diminish notably this pain; I have lately had under my care a French engineer, who, when constructing railroads in Russia, could succeed in calming the *douleurs fulgurantes* of his disease only by surrounding his feet and legs with ice. In some patients heat has the same effect. In these cases Chapman's rubber bags for pounded ice or hot water will be useful. Nerve-stretching has been proposed for these *douleurs fulgurantes*. This elongation of the sciatic nerve, practised for the first time in Germany by Langenbuch, in 1879, in France, by Débove and Gillette, in 1880, and since repeated by Esmarch, Erlenmeyer, Sury-Bienz, Hirschfelder, Rzehaczek, has not given any definite results, and though causing a temporary amelioration, it is often accompanied by trophic disturbances of great intensity. Balneotherapy and thermal treatment have an important *rôle* in the therapeutics of ataxia. For my part, I have abandoned hydrotherapy in the treatment of medullary sclerosis. I believe that cold douches can only augment or provoke spinal congestions, and I am happy to see that most of my colleagues of the Society of Hydrology are of the same opinion.[1]

If hydrotherapy has rather inconveniences than advantages in the treatment of ataxia, it is not so with thermal treatment. Three stations claim preëminence, Neris, Balaruc, and Lamalou; the thermal establishments of the latter seem to be most efficacious in chronic myelitis.

Finally, to these balneotherapic means, we must add electricity. Onimus and Rosenthal have insisted on the curative action of continuous descending currents in the affections of the spinal cord. It is a means which you ought always to employ, without expecting always to obtain much amelioration.

On the other hand, electricity has a preponderating *rôle* in the atrophic paralysis of infants, which, as the recent researches of Roger and Damaschino and of Laborde have shown, is to be attributed to central myelitis affecting the anterior horns, and destroying the large multipolar cells of that region. These alterations have as a consequence the atrophy or destruction of important groups of muscles. Our only means of combating this disease are galvanism, gymnastics, and hydrotherapy, in a word, all those agencies which can excite nutrition in atrophied parts. These means have real efficacy only at the onset of the disease; unhappily the first periods often pass unnoticed, and it is not till the later periods of the malady that our help is demanded, and then little can be done.

The same treatment is applicable to a disease which resembles the atrophic paralysis of early childhood. I refer to progressive muscular atrophy, which in accordance with the pathological studies of the French school of medicine, and I refer particularly to the labors of Hayem, Vulpian, Troisiêr, Charcot, and Gombault, ought to be attributed, like the atrophic paralysis of early childhood, to chronic parenchymatous myelitis, localized in the anterior horns of gray substance. In these cases constant currents applied methodically may have a happy influence.

Such, gentlemen, are the principal considerations which I have to offer *à propos* of affections of the spinal cord; you will find them quite incomplete, but from a therapeutic standpoint they are necessarily so, by reason of their very incurability. These diseases of the spinal medulla, in fact, constitute the most gloomy chapter in therapeutics.

[1] Langenbuch, Berliner klin. Wochensch., No. 48, 1881. Esmarch, Deutsche med. Wochensch., 1880, No. 19. Erlenmeyer, Centrablatt für nerv. und psych., No. 21, 1881. Débove, Gaz. des Hôp., 11 Dec. 1880. Gillette, Union Med., No. 17, Jan. 1881. Sury-Bienz, Deutsch. med. Zeitung, 1881. Du traitement de l'ataxie locomotrice (Soc. d. hydrologie Med. Sèance du 4 November, 1878).

ORIGINAL ARTICLES.

A PECULIAR AFFECTION OF THE NAILS IN HEREDITARY SYPHILIS.

BY ARTHUR VAN HARLINGEN, M.D.,
PROFESSOR OF SKIN DISEASES IN THE PHILADELPHIA POLYCLINIC.

THE interest which attaches to every symptom of hereditary syphilis, and the importance of obtaining all possible information as to the history of individuals suspected of inherited syphilitic taint, make it desirable that each manifestation should be studied and known so far as possible. For this reason the affection of the nails which I am about to describe, merits an attention which its intrinsic importance would not perhaps demand.

Florence M., three months of age, was brought by her mother to the Polyclinic for treatment on May 30th of the current year. The history given was scanty and unsatisfactory, but evidently nothing was withheld purposely. The child's father was said to have had some well-marked general eruption of the skin six years previously, but had never shown any other sign of disease so far as his wife's knowledge went. The mother, herself, seemed to enjoy perfect health, and had never had any symptoms which could point to syphilitic disease. She had never had any miscarriages.

The infant was quite healthy at birth, but when not more than three weeks of age, a number of bullæ showed themselves upon the soles of the feet. These disappeared spontaneously shortly after, and later a more generalized erythematous and papular eruption began to make its appearance and spread continually up to the time the little patient was brought to the Polyclinic for treatment.

On examination the child was found to be fairly well-nourished, but fretful, with a characteristic weary-looking, aged expression, the frontal protuberances of the cranium somewhat enlarged, the lateral prominences not noticeably protuberant, the nostrils partially occluded but not showing any purulent discharge, small characteristic fissures and cicatrices at the angles of the mouth, and a number of small split-pea sized erosions or patches on the dorsum of the tongue. A well-marked eruption of a peculiar fawn color, when viewed as a whole, and made up of numerous variously sized papules covered the scalp, face, arms, thighs, legs, palms, and soles. About the buttocks these papular lesions seemed inclined to rise above the surface and become hypertrophic, with an abraded surface, forming true moist papules or what used to be called "condylomata lata."

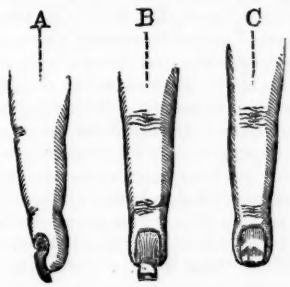
The most peculiar feature presented was, however, in the condition of the finger and toe-nails, which had all submitted to marked alteration in appearance, the result of the syphilitic disease. The child's mother was unable to say when and how this alteration in the nails had first commenced, but she remembered that nine weeks ago when the infant was not more than three weeks old the nails began to show a yellow discoloration in the centre, and to take on an arched shape as if shrinking together from the sides. The nails of the feet were affected first; later, those of the hands, and they gradually assumed the appearance shown when the child was brought for treatment.

Examination showed the nails of both fingers and toes to be alike affected, being partly curled in on their lateral edge until they occupied less than one-half or scarcely even one-third of the entire width of the nail-bed. Growing out some little distance beyond the ends of the fingers and toes the nails bent over in a claw-like shape so as to resemble the claws of a dog or other animal, a resemblance made stronger by the dark, brownish discoloration of the nails.

The sketch which I made shows the appearance presented by the nails at this time in the figures A and B of the cut; fig. C shows the appearance of the nails when gradually recovering their normal appearance under the influence of treatment.

The surface of the contracted portion was furrowed with fine transverse markings, while the proximal portion of the nail-bed from which it sprang was thrown up into rugous folds. The nail-bed alongside of the contracted nail was somewhat roughened and slightly brownish. The diseased nails were not thickened, and were not in any way misshapen, except for the perfectly uniform changes just described, which involved all the nails in precisely the same manner.

The infant was ordered daily baths, each containing ten grains of corrosive sublimate, and later was ordered one grain of iodide of potassium in water thrice daily. Under this treatment a rapid amelioration of all the symptoms ensued, the lesions of the skin soon disappeared, the nasal passages became clear, the child became more cheerful,



and the deformed nails were gradually thrown off and replaced by healthy ones. By the end of a month the child was to all appearance well, excepting, of course, the entire growth of new nails, which was still in progress. The medicine, however, was ordered to be continued several months longer.

There is not very much to be said with regard to this case beyond pointing out its salient peculiarities. It is in some respects I think unique. At least I have never met with an account of a similar case. Jullien (*Traité des Mal. Vénériennes*, p. 1009) says that the palmar and plantar skin affections, which are so common in hereditary syphilis would naturally lead to the supposition that the nails would often be involved, and such indeed is the case. In squamous onychia the nails are surrounded by a red areola, the horny layer is striated longitudinally and has a dull, tarnished look; under the microscope the epithelial layer of the bed of the nail is seen to be hypertrophied and secretes irregular horny lamina. This dry *onyxis* often gives occasion to the fall of the atrophied nail and its replacement by a new one, which at first healthy, submits progressively to the same alteration. In this connection may be mentioned the ulcerative form of onyxis sometimes met with in hereditary infantile syphilis, which does not differ essentially from that met with in the acquired syphilis of the adult. This too sometimes occurs on many fingers simultaneously.

In my case above described there was no ulcerative action around the nail, nor even any appreciable amount of onychia, it was merely a very unusual form of dry onyxis. I should add that no sign of return has shown itself, the nails have assumed for the most part a perfectly healthy appearance, and in a few months at furthest all trace of any former affection of the nails will in all probability have disappeared.

ANALYSIS OF THIRTY-THREE CASES OF HEMORRHAGIC MALARIAL FEVER,

WITH SPECIAL REFERENCE TO THE USE OF QUININE IN THIS DISEASE.

BY R. D. WEBB, M.D.,
OF LIVINGSTON, ALA., EX-PRESIDENT OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA.

IN THE MEDICAL NEWS of July 21, 1883, my friend and colaborer, Dr. E. D. McDaniel, gives a "Condensed Tabular Report of Twenty-four Cases of Hemorrhagic Malarial Fever," the salient point of which seems to be to show the danger of the use of quinine in this disease. Believing, as I do, that the lives of those suffering from hemorrhagic malarial fever depend to a great degree upon the judicious use of quinine, here, as in all other malarial fevers, I am unwilling to let the inferences attempted to be set out by this report go unchallenged; and more so as the inferences are supplemented by such expressions as "here lies . . . the true reason why quinine is so dangerous and so uncertain a remedy;" "some of the cases in the table which died *with quinine* might possibly have lived without it, for they seemed to be doing well until a dose of quinine, given with the intent of aiding their condition, seemed to have the contrary effect, and to determine an unfavorable result."

Table I.

Cases.	Approximate Age.	Sex.		Result.		Quinine.		Recov'd.		Died.	
		Male.	Female.	Recovered.	Died.	Taken.	Not taken.	With quinine.	Without quin'e.	With quinine.	Without quin'e.
1	40	1			1	1[1]				1	
2	18		1	1		1		1			
3	6		1	1		1		1			
4	25	1		1		1		1			
5	18	1		1		1		1			
6	19	1		1		1		1			
7	20	1		1		1		1			
8	29		1	1		1		1			
9	12		1		1	1[2]			None.	1	
10	18	1		1		1		1			
11	13	1		1		1		1			
12	16	1		1		1		1			
13	17	1		1		1		1			
14	18	1		1		1		1			
15	18	1		1		1		1			
16	20		1	1		1		1			
17	15	1		1		1		1			
18	17	1		1		1		1			
19	27	1		1		1		1			
20	14	1		1		1		1			
21	15	1		1		1		1			
22	25	1		1		1		1			
23	27	1		1		1		1			
24	40	1			1		1				1

These two sentences show plainly the object of the tabular report. Without in any way entering into details of treatment, I submit the subjoined analysis of thirty-three cases of the same disease occurring in my practice from 1867 to 1874. I will follow the outline of Dr. McDaniel in giving the tabular statement.

Remarks.—These twenty-four cases were all typical cases of hemorrhagic malarial fever; they were all the cases treated by me during this time. Case No. 1 was some distance in the country. I did not see him until in the second paroxysm, and his stomach was in such condition that I was unable to give him quinine with any degree of success. I do think he was ever under its influence. At this time I had not resorted to its hypodermic use in these cases. Case No. 9 was of a most malignant type. The stomach would not retain quinine. Delirium developed in the first paroxysm, and the patient died comatose, without reaction from the second paroxysm. Case No. 24, a medical friend, was impressed with the idea that quinine was not required in these cases. At his request, and under protest, I treated him *without quinine*. The treatment was such as indicated by Dr. McDaniel and others who do not like quinine in this disease. The case was not seemingly severe, and lingered for several days. I have ever regretted that I consented, even at his own request, to treat the case without quinine.

In the twenty-four cases there were three deaths and twenty-one recoveries, or 87.5 per cent. recoveries, and 12.5 per cent. of deaths. Of these deaths, one (No. 24) was *without* the use of quinine, another (No. 1) with its unfavorable use, and the third (No. 9) was so malignant that probably no treatment would have been more successful.

In the twenty-three cases treated *with quinine*, there were two deaths, or 8.6 per cent., with twenty-one recoveries, or 91.4 per cent.

The character of the two cases resulting in death has already been given.

The one case treated without quinine died, or 100 per cent.

Table II.

Cases.	Approximate Age.	Sex.		Result.		Recovered.		Died.	
		Male.	Female.	Recovered.	Died.	With quinine.	Without quin'e.	With quinine.	Without quin'e.
1	50		1		1				1
2	28		1		1				1
3	55	1			1				1
4	50	1			1				1
5	20	1			1				1
6	30	1			1				1
7	14		1	1		1			
8	40	1			1			1	
9	15	1		1		1			

Besides these twenty-four cases, I saw in consultation during the same time nine cases. As is generally known, cases seen in consultation are regarded as alarming from the outset, or they have already been under unsuccessful treatment until they assume an alarming aspect. Hence, in per-

[1] Very sparingly.
[2] Unable to retain quinine; died, without reaction, in second paroxysm.

nicious forms of fever of a malarial type, seen in consultation, we should naturally expect a high rate of mortality. It is hardly fair, then, to judge of the results of any plan of treatment by cases seen in consultation, and hence I have deemed it necessary to append remarks on these cases, showing why I have placed them *practically without quinine.*

Remarks.—It will be seen from an inspection of this table that the two recoveries were under the use of quinine. In one of these cases (No. 7), spirits of turpentine had been used in conjunction with the quinine; in the other (No. 9), the hæmaturia seemed to be much increased on first giving the quinine; but the next paroxysm was arrested, and with the cessation of the fever the hæmaturia also ceased, and the patient soon convalesced; and here, I may remark, seems to be the basis of the fear of quinine in these cases. Quinine will undoubtedly, in a certain number of these cases, increase the hæmaturia, and sometimes even seems to cause it. Seeing this, the timid administrator stops his quinine, and his patient dies, with the quinine under the ban of killing him; whereas, with a bolder hand, directed by a proper idea of the true cause of this *symptom* (a disturbance of the vaso-motor system under malarial influences), he would have unhesitatingly continued it, and his patient might have had a good chance to live. Remove the cause of the disease, and the hæmaturia will cease. I have seen quite a number of cases to which this remark applies; some, in which the quinine, given at the expiration of the second hebdominal period as a prophylactic measure (a measure familiar to all physicians in malarial districts), caused a return of a decided hæmaturia, without fever. In these cases I have not hesitated to repeat the quinine the next day, with the best results. Here the timid hand, not appreciating the true nature of the disease, and led from the true point of attack by the *symptom* of hæmaturia, falters, and his patient suffers the result. No. 8—here we have one death *with quinine.* This is not to be wondered at. In all forms of pernicious malarial fever (and this may be ranked among the worst), we may expect deaths under any plan of treatment, and whoever is so unfortunate as to meet with a number of these cases must be prepared for its victims.

The remaining six cases died *practically without quinine.* No. 1, an old lady treated in 1867, when calomel was much relied on, died of exhaustion, without ever having been well under its influence, her physician waiting for the fever to abate under the use of calomel, febrifuges, and baths, before commencing the quinine. No. 2, a most malignant case, died in the first paroxysm, without reaction from the depression of the initial chill. No. 3, an intemperate man, also died during the first hæmaturic paroxysm, and before I reached him as consulting physician. No. 4, a very malignant case, in which the patient refused his quinine, and died in a state of delirium in forty-eight hours. No. 5 got no quinine until seen by me on third day of attack, and died that night. No. 6, a railroad employé, without any of the surroundings necessary to successful treatment, and not seen by his physician until too late to do any good by any course of treatment; seen by me just before death. No. 8 died, under the use of quinine, with suppression of urine. Nos. 7 and 9 recovered, as already stated, with quinine.

So far, then, as these thirty-three cases go, quinine is shown to be not a *very dangerous*, or even *uncertain*, remedy. In the twenty-three cases where it had a fair trial, we have 91.4 per cent. of recoveries, and only 8.6 per cent of deaths, a rate of mortality which is not excessive in a pernicious fever; and in the two cases which make up the 8.6 per cent. of deaths, there were extenuating circumstances.

The death-rate, which is high, in the nine cases seen in consultation has been already explained, so as to show that it is, at least, *not due to the use of quinine.*

But I am reminded that figures, which are said "never to lie," contradict each other in the tables of Dr. McDaniel and those introduced in this article. Very true, an unfortunate fact it is that these unerring digits are so easily made to reflect, to some extent, the mind of him who uses them. The *environments* and the *method* of giving the quinine in the ten fatal cases in the two tables of Dr. McDaniel are not given, and how much of this result is due to these, and not to the quinine, cannot be known without them.

The positive result of six recoveries in the six cases *treated without quinine* is of more value; but, while it teaches us that cases may and do recover under this plan of treatment, it does not follow that other plans are necessarily wrong. Notably, among other plans of treatment claimed to be successful, is the use of atropia hypodermically, by Dr. W. C. Jackson, of Montgomery. He says, "I use no other remedy to counteract this condition, and relying solely and entirely upon this Sampson, it has never failed me." Believing, with Dr. Jackson, that atropia acts powerfully upon the vaso-motor system, I should feel disposed to supplement the quinine by atropia; but it will require a much wider field of observation than the few cases treated by Dr. McDaniel *without quinine*, and by Dr. Jackson *with atropia alone*, before we may feel justified in discarding quinine in this disease, which is confessedly malarial and paroxysmal.

ACUPRESSURE FORCEPS:

AN INSTRUMENT FOR THE INSTANTANEOUS ARREST OF HEMORRHAGE DURING SURGICAL OPERATIONS.

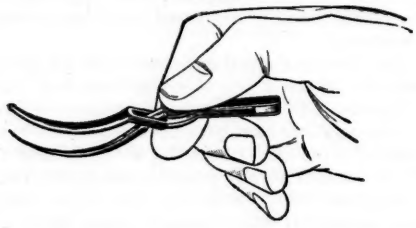
BY OSCAR H. ALLIS, M.D.,

SURGEON TO THE PRESBYTERIAN HOSPITAL; LECTURER ON ORTHOPÆDIC SURGERY AND JOINT DISEASES IN THE POST-GRADUATE COURSE AT JEFFERSON MEDICAL COLLEGE; SURGEON TO THE JEFFERSON MEDICAL COLLEGE HOSPITAL.

UNDER this heading, I wish to introduce an instrument to the medical profession that I have devised for the arrest of hemorrhage. It consists of two blades, Fig. 1, under the command of a spring, the lower of which is a needle, and designed to transfix bleeding tissues, which done, the grasp of the hand is released, and compression is instantly

effected between the blunt blade which lies upon the surface of the bleeding vessels and the needle which lies beneath them.

FIG. 1.



Its special application is where hemorrhage takes place simultaneously from many bleeding vessels. Few surgeons have not felt the need of a certain and instantaneous hæmostatic in operations in which the tourniquet cannot be used, or after the tourniquet has been removed. In the latter case, though the main vessels have been ligated, the hemorrhage is often so great from numerous small bleeding points, and the usual means of arrest and ligation so tardy, that fatal collapse has not infrequently resulted.

It is for this class of cases that the acupressure forceps have been devised. Beneath a bleeding area the needle is thrust, and the spring, instantly denoting that the hemorrhage has been arrested, leaves the operator to turn his attention to another point of danger. Thus half a dozen instruments will be found as efficient and much more transparent than a corps of assistants—not getting in the operator's way, and maintaining a silent but effective grip until the ligature may be applied, and the instruments one by one removed. In the surgical clinics of medical colleges, in hospitals, in active military service, and in the private practice of those surgeons who cannot command adequate assistance, this instrument will, I believe, be found of great service.

As acupressure forceps, they often render the ligature unnecessary, for no oozing will follow their removal if the vessels are small, and their application has continued for several minutes. In operating upon the female perineum, in which the ligature is to be avoided, this instrument especially (No. 2) will do excellent work.

FIG. 2.

Four varieties and nine sizes are made. One, in which both blades are needles—a suggestion of Dr. Keen, is not represented by a cut. All the diagrams are full size. Nos. 2 and 3 will be found most generally useful. No. 2 or a larger size will be found effectual in deep wounds, as in lithotomy. For plastic operations upon the face, a small size is made (Fig. 1). There are three sizes of No. 2, and three of No. 3—the largest of which is fully eight inches long.

FIG. 3.

Although each instrument may be used not only as a hæmostatic, but also as a tenaculum, yet the two designed especially as tenacula are represented in 4 and 5. For this purpose, I have found the large size (Fig. 5) to work admirably. In using

FIG. 4.

the instruments, a quick, firm thrust is necessary, but this manœuvre can easily be acquired on the coatsleeve.

My preference (if I could have but one variety) is for No. 2. Were I ordering a dozen, I should

FIG. 5.

take three of No. 2, three of No. 3—two of each a size larger, one of No. 5, and one of mammoth No. 3. No. 5 is not necessary if an ordinary tenaculum is at hand, but I believe that those having No. 5 will set the old tenaculum aside.

I have given these instruments a satisfactory trial in the Jefferson Medical College clinic and

hospital and in the Presbyterian Hospital, and feel that they have a useful future before them.

They have been made with great care by Mr. E. A. Yarnall, 115 South Tenth Street, of this city, who has spared no pains to make them perfect in every respect.

PHILADELPHIA, 1604 SPRUCE STREET.

HOSPITAL NOTES.

AN AFTERNOON IN THE OUT-PATIENT ROOM, MIDDLESEX HOSPITAL, LONDON.

Service of A. PEARCE GOULD, F.R.C.S. Eng.,
ASSISTANT SURGEON TO THE HOSPITAL.

INGROWING TOENAIL.

THIS young woman, gentlemen, tells us she has a sore great toe from wearing tight boots, and you now see she has what is wrongly called an "ingrowing nail." It is not the nail that is at fault, but the skin on the side of the nail has been pushed over the nail until a foul ulcer has been produced. It is very generally seen on the outer side of the nail; but, you remember, lately we had a case occurring on the inner side. You have seen me remove a portion of the nail in many cases; but this case, which is not very severe, we shall probably be able to cure by stuffing a piece of lint carefully under the nail, so as to raise it, and at the same time push aside the overgrowing flesh. She must also wear square-toed boots.

LACTEAL CALCULUS.

This woman is a nursing mother. The left breast is soft, normal in all respects, with an excellent nipple. The right mamma is about four times as large, with distended veins coursing over it; it is firm, heavy, but the skin is still pale. The areola, too, is full, and as I compress the breast gently, you can see the individual "sacculi," or dilatations of the galactophorous ducts, swelling under the thin skin of the areola, and at the same time some milk flows from the nipple. She tells us that she was quite well till three days ago, since when she has not been able to suckle with that breast, owing to its causing pain, and the breast has been steadily swelling ever since. She has shooting and hot pains in the breast from time to time. It is an excellent example of *milk congestion* of the whole mamma, the same condition which usually precedes a lacteal abscess of an individual lobe, and if left unrelieved in this case might run on to suppuration of the entire gland. Let us find the cause. The nipple is a typically good one; there is no "crack" in it; but at its summit is what looks like a small pustule, and is very tender. I open that with a knife, and, instead of pus, a small, solid, oval body, a *lacteal calculus*, escapes. This has obstructed the outlet of one of the ducts, the swelling around has obstructed others, and the pain in the act of suckling has prevented her relieving the remaining lobes, but all the while secretion has been actively going on, and from time to time specially stimulated by the nursing at the other breast. A little bathing of the nipple with hot water completes the surgical treatment, and all that is wanted now is to put the child to this breast alone for the next one to three times that she nurses.

SUPRAMAMMARY ABSCESS.

Here is quite a different case. This young girl is seventeen years old, and has menstruated regularly for two years, the last time three weeks ago. The outer side of the left areola is swollen and reddish in color; skin is shiny and œdematous, and there is superficial fluctuation. The mamma itself is unaffected. In the left axilla are two enlarged tender glands. This then is an areolar or supramammary abscess, a form often seen at, and soon after, puberty, and apparently associated in many cases with the active development of the part at that time. This patient traces the mischief to a blow. The house surgeon will open the abscess by an incision radiating from the nipple to avoid the ducts, and she will speedily be well. Remember the enlarged glands; they are always found in mammary abscess.

PHLEBOLITH.

This woman tells us that in April last she had a "gumma" behind the knee, which was treated by painting it with iodine. It left only a little lump behind. A few days ago she stumbled, and since then has felt pain in the part, and she wants to know if her trouble is returning. Feel the part. You will notice a hard narrow body, about two and a half inches long, a little tortuous in outline, and about the size of a small crow-quill, freely movable laterally, placed across the tendon of the semitendinosus muscle, just above the knee; trace it up, and you will notice a dilated vein just above. Clearly, then, she had a thrombus in a dilated vein in April. This thrombus has organized, and then become calcareous, and now forms what is called a phlebolith. In its organization it has contracted, and now moves freely in the bed which the previously enlarged vein had made for itself. It calls for no treatment; it is a permanent possession of the woman. We will simply tell her so, and advise her to rest the leg if at any time it pains her. The so-called "gumma," then, in this case, was what goes by the name of "phlebitis."

TWO CASES OF HUNTERIAN CHANCRE ON THE LIP.

Look well at these two women. Here is a chaste woman, thirty years of age, who all her life has been subject to a crack in the middle of the lower lip; two months ago the edges of the crack began to swell. She has now a distinct induration of the middle of the lip, with slight abrasion of the mucous surface. Under the jaw you will find a number of hard, enlarged, freely movable, and quite isolated lymphatic glands. Just below the occiput are two similar glands. On the left tonsil is a small superficial ulcer, and over the body are two or three small dusky papules.

The other patient is a woman of the town, who, six weeks ago, was under our treatment for gonorrhæal rheumatism of the right knee. Four weeks ago she came with a sore on the upper lip, just to the right of the middle line; its surface looked aphthous, but there was no other spot like it, and the base was a little hard. The induration increased, and is now very marked, while the surface has cleared, and is merely abraded. She has enlarged glands under the jaw, like the last patient, and all over the trunk she has an abundant eruption, which first came out three days ago. She says she has no sore throat; but there is a superficial, ragged, gray ulcer occupying half the free surface of the left tonsil. They are both taking mercury in pill—at first four grains of blue pill a day, then six grains. We will now increase the dose to eight grains. For the throat ulceration we will prescribe a bicyanide of mercury gargle, ½ gr.–℥j, and a little white precipitate ointment for the surface of the chancres. The prognosis depends chiefly upon the faithfulness and perseverance with which they will carry out the treatment, which will consist in a long course of mercury, at no time severe enough to do more than just touch the gums. Of course, we warn them against infecting others by kissing, or the common use of spoons, etc.

NÆVUS OF SCALP.

Here are two infants brought to show us the result of treatment. This one had a subcutaneous nævus on the forehead just in front of the hair. I treated it by constant pressure, and to secure that I applied, as you have often seen me do, *contractile* collodion, painting it on layer over layer twice a day; in this way very firm pressure has been kept up for some weeks. You see the result, the collodion scab has been off a month; the nævus is quite cured and there is no scar nor any other indication of the late presence of the vascular growth. This little body had a capillary nævus over the parietal bone, and I burnt it with a fine-pointed cautery in four places. The growth is quite stopped, and the few capillaries which are not cured may be left, probably they will undergo a slow process of obliteration; if not, we can treat them in a similar manner later on. Now we will call in some male patients.

HYDROCELE OF TUNICA VAGINALIS.

This young man, aged twenty-four, makes the diagnosis for us, for he tells us that two years ago a swelling in the scrotum was tapped and fluid was drawn off. The swelling has gradually reappeared. We see the tumor is limited to the scrotum, as you grasp the upper part of the scrotum there is nothing but the cord between the finger and thumb; the swelling fluctuates, is dimly translucent, and the testicle is embedded in it, though it can be felt at the lower and back part of it. Notice his age; we must not be content with tapping the hydrocele; we must endeavor to obtain a radical cure, and for this purpose we will, after tapping, inject some pure carbolic acid.

HYDROCELE OF CORD: OMENTAL HERNIA.

This lad is seventeen years old. At first sight this case resembles the last, but examine it carefully. There is a tumor filling the left side of the scrotum, fluctuating, clearly translucent in all its parts, with a slight impulse on coughing when he stands up—none on lying down. Further, the testicle is not enveloped in the swelling, but is quite at the bottom of the scrotum below the hydrocele, and gliding freely over it. The cord too is very much thickened and indurated. The fluid is evidently contained in the unobliterated funicular sheath of peritoneum, and in such cases there is often a fine communication with the peritoneal cavity, so we will lay him down and try whether the tumor is reducible by long-continued compression. No, it is not. I will now tap it. You see I have drawn off several ounces of the ordinary straw-colored hydrocele fluid. But notice that what we took to be a thickened cord is now felt to be an irreducible omental hernia; and now we see the explanation of the curious symptoms. The cyst pushed up the omentum and fixed it in the inguinal canal and just outside the ring, here it felt like a thickened cord, and when the man coughed the impulse in the hernia was transmitted to the hydrocele.

EPITHELIOMA OF TONGUE.

This man is forty years old, and comes to us complaining of a sore tongue which he has noticed for two months, and which pains him very much on eating. He is a plumber by trade, says he has enjoyed perfect health, denies ever having had any venereal disease, and by cross-questioning, you see that I do not obtain any evidence of his having had constitutional syphilis. About midway along the right edge of the tongue is a small depressed, irregular ulcer, with raised, uneven, and hard edges; the rest of the tongue is perfectly healthy; no enlarged glands beneath the jaw; teeth not jagged. Here the diagnosis plainly rests between a late syphilitic ulcer and epithelioma, because the tongue is otherwise quite healthy, shows no signs of old fissures or papules, and because there is no history of syphilis: also, because the ulcer is very irregular, has indurated edges and base. I believe it to be epitheliomatous. The man's age and the position of the sore harmonize with this view. Notice, that while the quite healthy condition of the rest of the tongue supports this opinion, had we found the tongue in an ichthyotic condition, that also would have favored the diagnosis of cancer. We will, however, give him 30 grs. of iodide of potassium a day for a week. If it fail to have any effect, we will take the man into the hospital and excise one-half of the tongue. The method I should adopt in such a case would be to split the tongue along the middle line and cut out the one half quite far back with scissors, picking up the arteries as they are divided.

ABSCESS OF LOBULE OF EAR.

This young fellow tells us that for many years he has had a small "core" in the lobule of the right ear; it has given him no trouble till three days ago, when it rapidly swelled. Now, you see, he has a lump the size of a cherry projecting from the back of the lobule; it is soft and fluctuating. The diagnosis rests between hæmatoma and abscess. A grooved needle settles the point, for pus flows along the groove, and I will now open the abscess freely. Here, then, we may say that we have an example of what Sir James Paget has called "residual abscesses," that is, an abscess set up around (possibly in part by) a residue or remnant of some long-past inflammation.

SEBACEOUS AND DERMOID CYSTS OF SCALP.

This middle-aged man came last week with a common sebaceous cyst on the scalp. You remember that I transfixed it, and tore out the thin cyst-wall, and, after all bleeding had stopped, I painted the edges over with iodoform, dissolved in collodion, 10 per cent. The little wound is now nearly healed. In this case, the sac consisted of a distended sebaceous gland, fibrous tissue, lined by squamous epithelium, and the contents were only inspissated sebum. Now look at this young man who wants advice about a tumor just behind his left ear, which has been there as long as he can remember, and in exactly its present state. It gives him no trouble; it fluctuates, and at first sight it resembles that in the other man; but notice that the skin moves freely over the tumor, and further that a rim of bone is felt around the base of the tumor—two important differences. Here we have a congenital or dermoid cyst of the scalp. It is caused by an infolding of a portion of the epiblast of the embryo; it lies *under* the scalp, not *in* it; the sac consists of true skin, with all its special structures—hairs, glands, muscles—and its contents are *all the excreta* of the skin—hairs, epidermis, sweat, sebum. These are most often met with near the orbit. We will not treat it, as it is not causing any inconvenience. The only treatment justifiable would be complete excision of the cyst, and you must be very careful, indeed, to remove every portion of the sac. As a rule, such dermoid cysts merely rest upon the bone; occasionally the bone is depressed beneath them, and, as a still more unusual condition, the bone is actually perforated here, and thus, when you remove the tumor, you actually open the cranial cavity. Now, in this particular case, we can feel a bony rim around the tumor; so the bone is evidently hollowed out; but there is no evidence (pulsation, etc.) of perforation of the skull.

ANAL ABSCESS.

This man says he has "piles." Let us look. At a glance you see he has not "piles." Here is a super-

ficial swelling behind the anus, reaching just over on to the coccyx, fluctuating and painful. You see I can press my finger into each ischio-rectal fossa without causing any pain or meeting with any resistance. This then is an anal abscess, the pus is just under the skin at the verge of the anus and *not* in the ischio-rectal fossa. If left to itself it will form a fistula. We will try to prevent that by making a free incision into it. Abscesses like this are the common starting-point of fistula in ano. Such fistulæ are superficial to the sphincter muscle, and in slitting them up the muscle is not cut.

MEDICAL PROGRESS.

ŒDEMA OF THE ARY-EPIGLOTTIC FOLDS, ESPECIALLY IN CHRONIC LARYNGEAL AFFECTIONS.—M. GOUGENHEIM draws the following conclusions at the close of a memoir on this subject: 1. Œdema of the ary-epiglottic folds, especially in chronic laryngeal affections, is not always accompanied by dyspnœa. 2. When dysphagia is absent, which is rarely the case, the œdema may be latent, and is only revealed by laryngoscopic examination. 3. On laryngoscopic examination the œdematous or hypertrophied folds do not touch during the respiratory act. 4. When the patient is told to articulate the tumefied folds approach each other, but do not cause dyspnœa, and dyspnœa is only caused when the act is prolonged. 5. When the folds are very much enlarged and in contact, they are more or less completely immovable and inspiration does not cause dyspnœa, though articulation and prolonged examination produce spasm and dyspnœa very rapidly. 6. In the course of a very pronounced case of œdema of the folds, laryngoscopic examination made at the time of an attack of suffocation enabled him to see that, so far from the folds approaching each other at the moment of inspiration, they separated, though very slightly. The suffocative feeling and dyspnœa were not, then, the result of an approach of the folds to each other, but of a spasm of the cords, probably induced to some degree by the prolonged examination. 7. Sestier's theory, therefore, of these cases of dyspnœa is inexact. 8. The attacks of suffocation and the inspiratory whistling are due, in these cases, only to an intercurrent spasm, either of reflex origin or produced by compression of the recurrent laryngeal nerves. 9. The discovery of ary-epiglottic swellings is not a therapeutic indication for tracheotomy, unless there is dyspnœa. 10. It is necessary, in any therapeutic procedure, to touch the tumefied folds only with the greatest circumspection, lest a severe spasm be produced. 11. The spasm is not always, in these cases, an absolute indication for tracheotomy; Gougenheim has seen it disappear rapidly in some cases under the use of external and internal remedies. 12. When one sees the signs of laryngeal suffocation, which physicians almost always attribute to an œdema of the folds, a laryngoscopic examination should be made, if possible, as it may reveal the existence of subglottic lesions which may influence the mode of treatment.—*Gaz. Méd. de Paris*, July 14, 1883.

NEW METHOD FOR DETERMINING THE PERCENTAGE OF FAT IN MILK.—At the meeting of the Boston Society for Medical Observation on May 7th, DR. HARRINGTON read a paper on this subject. Attention was called to the Feser lactoscope, a small instrument designed to determine rapidly the percentage of fat in milk, and on account of its great simplicity peculiarly adapted for domestic use. The principle of the instrument depends on the fact that the more fat there is in the milk the more opaque the fluid becomes. The instrument consists of a cylinder of glass, into the end of which is fitted a stopper carrying a small rod of white glass on which some black lines are marked. A small quantity of milk (four c.c.) is now poured into the upper end of the cylinder, and water is added in small quantities until the black lines can be seen on the glass rod; the contents of the cylinder are shaken from time to time as the water is added in order to mix it thoroughly with the milk, and when the black lines can be seen the percentage of fat can be read off at once from a scale on the side of the cylinder at the level of the diluted milk. Dr. Harrington stated that he had made a number of comparative tests between this instrument and other methods, and had found that it gave very satisfactory results.

The reader said that good milk should have from two and one-half to three per cent. of fat. Some analyses of human milk have been recently published in which the results of different observers have been tabulated. From this it appears that the average percentage of fat in human milk is about two and one-half per cent., but the analyses vary so much that the results of any one man can hardly be taken as reliable.

Dr. Haven said that he had used the Feser's instrument at the West End Nursery with very satisfactory results. It shows a very great variation between different cans of milk as supplied by the same milkman, the variation being from two and one-fourth to four and one-half per cent. of fat, and he had found it much better to have the milkman mix the contents of all the cans together before bringing them to the city rather than to try to get the supply from any one cow, for in this way the percentage of fat would be the same in the milk supplied to all the children, and much more accurate observations could be made on the comparative results of feeding than where the variation between the milk for the different children was so great as under the plan of separate cans. Where the percentage is reduced below the normal it is likely to be a source of inanition, but where the fat is unduly increased it gives rise to intestinal trouble on account of a lack of the proper amount of pancreatic juice to properly digest it. It was not thought that the coloring matters used to doctor milk would interfere with the use of this instrument, for although they might affect the color of the milk they would not change its opacity to any very great extent.—*Boston Med. and Surg. Journal*, August 16, 1883.

FARADIZATION OF THE ABDOMEN IN ASCITES.—In the Russian literature of the past three years, several cases have been recorded in which ascites was successfully treated by faradization of the abdomen. SKIBNEWSKI has recently reported two additional cases; the first, a little girl, æt. 9, very anæmic and with marked ascites. The urine was small, with no albumen, lungs sound, heart-beat normal, with a feeble systolic souffle. For ten days the patient took digitalis and iron without any diuretic effect, and during these ten days the circumference of the abdomen sensibly increased. The digitalis was then discontinued, the iron being kept up, and Skibnewski commenced faradization of the abdominal muscles two or three times a day. Each *séance* lasted fifteen or twenty minutes. The currents were sufficiently strong to produce muscular contraction. During the same *séance* each muscle was made to contract fifteen or twenty times. After twelve days the circumference of the abdomen was reduced from 36½ inches to 30; the quantity of urine was considerably increased. After three weeks the circumference of the abdomen was only 24 inches, and the quantity of urine normal. A month and a half after leaving the hospital, the patient had a return of the ascites. As before, medication had practically no effect, and faradization was resorted to, with the former effect.

The second case was that of a young man, æt. 17.

Ascites and augmentation of the spleen commenced after an infectious disease. The urine was small, and contained no albumen. Faradization was performed twice a day for fifteen days, and then thrice a day until, within four weeks, a cure was effected, both of the ascites and splenic enlargement.—*Revue des Sc. Méd.*, July, 1883.

GLYCERINE IN ACUTE FEVERS.—SEMMOLA recommends the following drink in acute fevers: Glycerine ʒj; citric or tartaric acid grs. xxx; water Oj. From fʒv to ʒj should be taken every hour. Glycerine is useful as a combustible aliment and serves to prevent the waste of the body. With this scope it is more convenient than alcohol, which is to be feared from its exciting action on the brain.—*London Medical Record*, July 15, 1883.

NEPHRECTOMY.—The first nephrectomy in Naples and the fifth in Italy, has been performed by D'ANTONA, for pyonephrosis, the lumbar incision being used. He first resected nearly two inches of the eleventh rib and carried his incision down just in front of the twelfth rib. By this measure he obtained more room for his hand. No sutures were used, but the wound was left to heal by granulation. The result was favorable.—*Centralbl. f. Chirurg.*, No. 31, 1883 (from *Riv. Clin. dell Univ. di Napoli*, No. 1, 1883).

MOLLUSCUM CONTAGIOSUM GIGANTEUM.—Under this name DR. S. LAACHE, of the Anatomico-Pathological Institute of Christiana, describes, in a recent number of the *Nordiskt Mediciniskt Arkiv*, a tumor extirpated from the nape of the neck of a female aged fifty-six. This tumor, which had lasted for thirty years, but had increased considerably for the last four years, was of the size of the fist, with nodulations or unequal protuberances on the surface; it was covered at its base with normal skin, sending tongue-like ramifications over the whole tumor, and which were transformed at last into a delicate membrane, half pellicular and half granular, covering the whole mass, except at the summit, where there was a flat, crateriform depression. Under this incomplete covering there was the mass of the tumor, which, as it were, undulated against the surface. The cut surface, equally composed of nuclei of unequal size, separated by septa of cellular tissue, presented a granular aspect, but without the knife being covered with adipose matters. Examined by the microscope, the lobules contained, in the circumference, cellules evidently resembling epidermis, while in the centre was seen a considerable quantity of corpuscles with an adipose or waxy lustre strongly resembling amyloid tissue. In all other respects they resembled the corpuscles of molluscum, with which the author compared them. In his remarks on the case, Dr. Laache discusses the differential diagnosis between molluscum and epithelioma or cancroid, to which last the tumor was at first referred. From cancroid, however, the molluscum in question was distinguished by its definite form and its tendency to grow outward, besides by its being covered entirely by a kind of delicate skin without any apparent ulceration. It was, however, the presence in considerable quantity of corpuscles of molluscum which determined the diagnosis. The author admits, however, that, as regards prognosis, the tumor could not be regarded as being so benignant as ordinary molluscum, and he therefore thinks he ought to consider it as a transitional form between the malignant epithelial tumor and the benignant one. He observes that there was no relapse at the end of more than six months. In conclusion, Dr. Laache considers the presence of nuclei in several of the shining corpuscles as a proof in favor of the opinion that the corpuscles of molluscum are the results of a peculiar degeneration of preëxistent epidermic cellules.—*Med. Times and Gaz.*, Aug. 11, 1883.

HYDROBROMATE OF QUININE.—DR. GARCIA, of Brazil, states that malarial fever is promptly arrested by the hypodermatic injection of grs. iij of hydrobromate of quinine. This remedy possesses the advantage of causing no inflammation or nodules after subcutaneous injection.—*L'Indipendente*, July 25, 1883.

PHYSIOLOGICAL ACTION OF COFFEE.—In the course of some recent experiments on this subject, DR. J. A. FORT, of Rio de Janerio, tested the action of coffee by 1. Completely abstaining from it for fifteen days; 2. Taking excessively large quantities for fifteen days; and 3. Taking two cups a day for twenty-five days. He concludes that coffee acts on the organs and functions by exciting the cerebro-spinal and central nervous system. Taken in very large doses, it produces insomnia by excitation of the brain. By exciting the cord, it produces muscular cramps, pains in the stomach, intestinal and cardiac troubles. The excitation which it produces in the cord is, consequently, one of a reflex or excito-motor kind. It may be such that it equally affects the nerve-roots of the sympathetic and those of the spinal nerves. It is well known that a slight excitation of the sympathetic affects the vaso-motor nerves; but if this excitation is very strong, the irritation of the vaso-motor nerves causes paralysis of them. Dr. Fort asks if this phenomenon does not explain the troubles of intestinal secretion, and the genital troubles produced by the ingestion of large quantities of coffee. Taken in moderate quantities, coffee produces a less excitation in the nervous system. It slightly stimulates the brain, causing less inclination to sleep, and increased activity of the brain. It also slightly stimulates the spinal cord, giving it tone, and slightly increasing the activity of its various functions. It is true that coffee increases tissue waste, but only by its action on the nervous system, and it causes neither a greater nor less consumption of nitrogenous food. In therapeutics, therefore, it should be classed among the reflex excitors, and not among the agents modifying nutrition.—*Bull. Gén. de Thérap.*, June 30, 1883.

LAPAROTOMY FOR TUMORS OF THE FALLOPIAN TUBES.—DR. A. MARTIN reports eight cases of laparotomy for tumors of the Fallopian tubes. Of these, five were cases of hydrosalpinx, two of which were double, pyosalpinx in two cases; and one case of double hæmatosalpinx. In arriving at the diagnosis in the cases, Martin anæsthetized the patients, and examined both per vaginam and per rectum, and in some cases through the dilated urethra. Of the eight cases only one died, from sepsis in a case of double hydrosalpinx. The pelvic cavity was entered by a long incision in the linea alba.—*Centralbl. f. Chirurg.*, No. 24, 1883.

TREATMENT OF VASCULAR TUMORS WITHOUT OPERATION.—FLORIANI has recently treated six cases of telangiectasis with sublimate collodion (3:20). The collodion is put on in four layers by means of a camel's-hair brush, each layer being allowed to dry thoroughly before the next is applied. On the fourth day the edges are raised and a second series of four applications are made, this being repeated every fourth day until the swelling disappears and the edges are depressed. After the crust falls off the place seems depressed and reddened, but soon resumes its normal color. This treatment is painless and requires only one or two months to cause an angiomatous tumor to disappear.—*Allgem. Wein. med. Zeit.*, No. 32, 1883.

CHLORIDE OF LEAD AS A DISINFECTANT.—Chloride of lead is now proposed as a disinfectant. It was suggested by Dr. Goolden many years ago. Half a drachm of nitrate of lead is dissolved in a little hot water and mixed with a slight excess, say two drachms, of common salt in a pail of water. The clear liquid, consisting, of course, of chloride of lead, is no doubt, an excellent disinfectant, but we do not see that it is better in any respect than chloride of zinc, which is very much cheaper. These metallic disinfectants have the advantage of being powerful deodorizers as well as germ-killers. Each will absorb sulphuretted hydrogen and ammonia, to take two typical gases, and yet neither has any smell of its own. Carbolic acid, a most valuable antiseptic, does not destroy, but only masks foul smells and leaves its own disagreeable and persistent odor in addition. Lead salts, besides being expensive, are blackened by sulphuretted hydrogen, which is a disadvantage. The only objections to chloride of zinc are that, being non-volatile, it does not purify air, and that having no odor there is constant danger of its being taken internally by mistake. This objection applies, of course, equally to chloride of lead.—*Lancet*, August 11, 1883.

VARIATION AND DISAPPEARANCE OF CARDIAC MURMURS.—MR. E. HYLA GREVES says, in a recent paper in the *Liverpool Medico-Chirurgical Journal*, July, 1883, that it is a matter of daily observation that certain cardiac murmurs dependent on definite organic lesions change and vary, and by no means infrequently disappear, the lesion still remaining.

There have been several cases in the Royal Infirmary during the past winter illustrating the fact, that not only may murmurs due to incurable cardiac diseases vary and even disappear, but a fact also equally important, viz., that many murmurs, apparently due to an incurable lesion, may actually depend upon lesions which are perfectly curable, and in which, therefore, the murmur may not only disappear, but also the condition of the heart which gave rise to it, and the heart itself again become perfectly normal.

It is now an undisputed fact that, even after a considerable degree of regurgitation, either through the mitral or tricuspid valves, complete restoration to the normal condition of these valves may actually take place; and the same may be affirmed, but to a much more limited extent, of the aortic valve, for the physical conditions present at this orifice naturally offer insurmountable difficulties to the process of restoration. Whether this restoration to the normal condition becomes permanent or not depends upon a variety of circumstances, more especially on the original cause of the lesion, the age, occupation, and mode of life of the patient, and in forming a prognosis these factors must be carefully borne in mind. There is a general consensus of opinion that in cases of anæmia, chlorosis, etc., as well as in general febrile conditions, there are muscular relaxation and general debility, and it is argued with great probability that the muscular substance of the heart is affected in a like manner, for after death in these cases it has been found flabby and relaxed, and in well-marked cases of chlorosis, even dilated (from loss of its elasticity), and somewhat hypertrophied. And it is probable that the so-called functional or hæmic murmurs so constantly heard in chlorosis, etc., are due not merely to the spanæmic condition of the blood, as was formerly taught, but to actual regurgitation, brought about by the relaxed and dilated condition of the heart itself, due to malnutrition. These cardiac hæmic murmurs are always systolic in rhythm, and their position of maximum intensity is about one inch and a half to the left of the pulmonary area, and in the same plane, *i. e.*, just over the position of the left auricular appendix. And, in connection with this fact, it is interesting to note that, as Skoda first observed, a mitral regurgitant murmur is occasionally heard only in this area. Naunyn attributes this to the better conduction of the murmur along the course of the regurgitating blood. This view is supported by Balfour and others. The fact, too, that the pulmonary second sound is accentuated in cases of chlorosis, indicates increased tension in the pulmonary artery, and is consequently another proof of the regurgitant origin of these hæmic murmurs. Now, inasmuch as this relaxed and dilated condition of the heart is a curable one, if not too far advanced, it follows that under appropriate treatment not only will the heart be restored to its natural condition, but also that the accompanying murmurs will disappear.

Mr. Greves gives the details of four cases in which murmurs had disappeared, and draws the following *résumé:*

Although murmurs are among the most constant of the physical signs of heart disease, still their presence does not necessarily indicate the existence of incurable lesions, nor their absence that such lesions are not present. In forming a correct diagnosis and prognosis of any case, therefore, too much reliance must not be placed on the presence or absence of murmurs, as is too frequently the case, but other signs and symptoms must receive careful examination and consideration, for often on them alone is it possible to found a correct diagnosis.

The presystolic murmur of mitral stenosis, the most typical of all murmurs, occasionally disappears, the lesion still remaining. Mitral regurgitant murmurs, when due to simple relaxation of the heart's muscle, and dilatation of its cavities and orifices, as in chlorosis and general febrile conditions, in most cases completely disappear under appropriate treatment.

Tricuspid regurgitation is occasionally a temporary condition, due to bronchitis, etc., and when the cause is removed, this condition is recovered from, as is indicated by the disappearance of the murmurs.

Aortic systolic murmurs, due to a permanent lesion at the aortic orifice, may undergo changes in their intensity, but never completely disappear.

Aortic diastolic murmurs in certain extremely rare cases have been known to disappear. In these cases a systolic aortic bruit is always present, which remains persistent, and thus indicates the existence of the lesion.

Pulmonary systolic murmurs are persistent when due to an organic lesion; but, if non-organic, may disappear temporarily or permanently.

RESECTION OF THE WRIST BY TWO LATERAL INCISIONS.—M. POLAILLON recently presented to the Société de Médecine, the resected bones from the wrist of a woman, æt. 39, on account of a non-malignant tumor of the right wrist. The specimen consisted of the carpal bones, the extremities of the radius and ulna, and the upper extremity of all the metacarpals except the metacarpal of the thumb. The technique of the operation was as follows: After anæsthetizing the patient and applying the Esmarch bandage, he made two incisions along the radial and cubital side of the wrist. Through these openings the carpal bones, which were bathed in pus, were easily enucleated. Then about three-fifths of an inch of the lower end of the ulna were resected, and afterward the lower end of the radius was also resected. The upper extremities of the four metacarpal bones were denuded of articular cartilage, and found in a suppurating condition, and were resected with Liston's pincers for about four-tenths of an inch. All the tendons were carefully spared. The cavity was then rid of its fungosities by

means of a blunt curette, and thoroughly washed with a twenty per cent. solution of carbolic acid. Metallic sutures were put in, with drainage-tubes and Lister dressing. The hand and forearm were immobilized. There was immediate union, except at one point in the radial incision, which remained fistulous for some time, and discharged small spiculæ of bone. Ten months after the operation M. Palaillon presented the patient to the Society. The hand is very useful, and its efficiency in performing various duties is improving rapidly.—*L' Union Méd.*, July 22, 1883.

PERCHLORIDE OF IRON IN SKIN DISEASES.—DR. CASARINI states that the external employment of chloride of iron is highly useful in many chronic diseases of the skin, employed as an ointment consisting of one, two, or three parts to thirty of lard, or as a lotion mixed with two or three parts of water. The diseases in which it is most efficacious are subacute and chronic psoriasis, eczematous lichen, and eczema—after all acute symptoms have subsided. From the cases he has employed it in he draws these conclusions: 1. The perchloride is a highly efficacious remedy in the treatment of simple and hemorrhagic purpura. 2. It is very useful in the chloro-anæmic condition which often accompanies certain skin diseases, such as rupia, ecthyma, and impetigo. 3. It is employed externally with promptly efficacious results for ulcers dependent on scrofula or constitutional syphilis. 4. Used as an ointment, it modifies in a most efficacious manner the squamous skin diseases, and especially psoriasis.—*Med. Times and Gaz.*, Aug. 11, 1883.

STATISTICS OF OPERATIONS FOR LYMPHOMATA COLLI.—G. KRISCH gives the results of ninety-two operations for tuberculous glands of the neck. Total number operated upon 92; complete recovery in 32 cases—35 per cent.; partial recovery in 44—48 per cent., of which there was recurrence in 22 cases—24 per cent., and general disease followed in 22 cases—24 per cent., 4⅓ per cent. having phthisis. Sixteen patients or 17 per cent. died, 3¼ per cent. from the operation and 13¾ per cent. from tuberculosis. Of the patients 45 were males, and 47 females. The majority of the patients were aged from 6 to 20 years, 30 being between 16 and 20 years of age. None of the patients were over 30 years old.—*Centralbl. für Chirurg.*, No. 31, 1883.

PAPAYOTIN IN DIPHTHERIA.—DR. CRONER at a late meeting of the Verein für Innere Medicin, reported a case of diphtheria which he treated very successfully with papayotin. The attack was a severe one, in a boy, with extensive deposition of membrane and pronounced general symptoms; the sensorium being affected, and the morning temperature reaching 104° F. The throat was painted every hour with a four per cent. solution of papayotin, and in five hours the membrane was reduced to a sort of loose network, which soon disappeared. The temperature at the same time fell from 104.9° to 102° F., and convalescence progressed without any return of the membrane. Other members of the Society reported similar cases, although one or two had seen but small results from the drug; but the mass of evidence was in favor of its being at least as efficacious as, if not more so than, the forms of treatment already in use.—*Lond. Med. Rec.*, July, 1883.

EXTRACT OF CALABAR BEAN IN DIARRHŒA.—DR. MASCHKA, of Carlsbad, has found the extract of Calabar bean very serviceable in intestinal catarrh, diarrhœa, atony of the ailmentary canal, etc., and explains his views of its mode of action. The physiological action of Calabar bean, Dr. Maschka states, is upon the muscular coat of the intestines, producing contraction thereof. In acute catarrh of the intestines, it controls the hyperæmia of the mucous membrane, and arrests the excessive secretion. Under its continued use the calibre of the intestine becomes narrow, while its contents are held back or only partially expelled. In cases of habitual atony of the muscular coat, it produces a normal evacuation of the contents of the bowels. Dr. Maschka gives it the preference over preparations of opium, as its continued use does not produce the injurious effects of the latter. Although the author has not much experience of the use of this drug with children, he argues *à priori* that it has a great advantage over opium in their case, as being free from the dangers that attend the administration of opium to children.—*London Med. Record*, July, 1883.

RESECTION OF THE LUNG IN ITALY.—This operation was performed on July 6, by PROF. RUGGI, on a woman, æt. 30, for a vast phthisical cavity of the right lobe. The entire lobe was removed through an opening in the anterior superior wall of the thorax. The second and third ribs were excised for a distance of nearly three inches, the pleura opened and detached from the lung, without the least respiratory or circulatory trouble. The operation lasted about one hour and a half. Though the pulse, respiration, and temperature remained normal for thirty hours, the patient sank and died in a few days.

FOURTH CASE OF DIVULSION OF THE PYLORUS.—PROF. LORETA performed his fourth case of divulsion of the pylorus on July 12th, for pyloric stenosis. There were no untoward after-symptoms, and the patient was practically well on the tenth day.

SALICYLIC PASTE.—LASSAR recommends a paste for the skin in cases in which ointments are not borne, and more particularly recommends a salicylic paste in eczema. The advantage of the paste over ointment is its porosity. The formula is ℞ Acidi salicylici, 2 parts; vaselin, 50; zinci oxidi, amyli, āā 25; M.; leniter terendo fiat pasta.—*London Med. Record*, July, 1883.

THE SECOND GASTROSTOMY IN ITALY.—DR. FRANCESCO SUPERNO, of Pondidera, has resected the pylorus of a man æt. 43, who for ten months had suffered from gastric carcinoma. Fifty sutures were put in. The patient died of peritonitis on the third day. The autopsy showed union by first intention throughout the wound, and no blood nor feces had escaped into the peritoneal cavity.

CORROSIVE SUBLIMATE IN DIPHTHERIA.—KAULICH, believing diphtheria to be due to an organism, selects corrosive sublimate as the best germicide to treat this disease. He washes the false membranes of the mouth, nose, and throat with a $\frac{1}{20}$ to $\frac{1}{10}$ per cent. solution. In children who had undergone tracheotomy, the trachea was washed with the same solution. The application was made four times a day, or sometimes even every two hours. Inhalations of a solution of only .005 per 1,000 were used for fifteen minutes every hour or at more extended intervals. Internally, he administers to children from 1 to 2 centigrammes (= about 1/6 to 1/3 grain) of the drug daily in albuminous water, to which a little cognac and sugar have been added.—*London Med. Record*, July, 1883.

THE FIRST OVARIOTOMY IN SMYRNA.—The first ovariotomy in Smyrna was performed in May by DR. VILTORE BELLELI, at the Rothschild Hospital, in a woman 45 years of age. In spite of very unfavorable symptoms the woman recovered.

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SATURDAY, SEPTEMBER 1, 1883.

NEW TESTS FOR SUGAR—INDIGO.

IN our last issue we gave an account of the new picric acid test for sugar in urine, suggested by Dr. Johnson.

Another test recently recalled to the attention of the profession by Dr. George Olliver (*Lancet*, May 19) is *indigo*. It will be remembered that when this intensely blue substance is associated with glucose, it is colorless, as is the case in nature, where, in the juice of the indigo plant, the indigo is combined with indiglucin, a saccharine substance. Reasoning from this fact, Dr. Olliver thought the color of indigo should be discharged by the glucose in diabetic urine, and upon trial found this to be the case. Mehu had also announced, in 1880, that when the carmine of indigo or the sulphindigotate of sodium is heated with carbonate of sodium and a solution of glucose, the blue color is converted gradually into green, then into red, and finally into yellow. A solution prepared by adding to a solution of sulphindigotate of sodium, carbonate of sodium, and redissolving the minutely divided precipitate by heat, possesses a greenish-blue tint, and, according to Dr. Olliver, forms a reliable, sensitive, stable, and non-caustic test for sugar. But Dr. Olliver prefers to use test-papers, which are little pieces of filtering paper about an inch long and one-quarter wide, impregnated with the constituents of the test. One of the papers is dropped into an ordinary half-inch test-tube, and enough water added to just cover its upper end. The indigo is then dissolved out of the paper, and one drop only of the suspected urine is allowed to fall into the tube, and heat applied. If sufficient sugar be present, shortly after the first simmer, a beautiful violet tint spreads throughout the bright-blue solution; very quickly this deepens, and passes into purple, this into reddish purple, which gives place to various tints of red, orange-red, orange, and, finally, straw yellow, which remains without further change, though heated ever so long. On shaking the tube, the colors return in the reverse order to that in which they appeared, terminating in the original blue. The shaking permits the more ready access of oxygen of the air to the fluid. The same change takes place in a longer time on standing. Boiling again removes the color, which again returns on exposure, and thus the alternation may be kept up indefinitely.

Dr. Olliver does not give precise directions how to make these test-papers, but they are prepared by Wilson & Sons, pharmaceutical chemists, Harrogate. We have used them, and find that the blue color is reduced by diabetic urines containing such an amount of glucose that five or six drops are required to produce a distinct reaction with a cubic centimetre of Fehling's solution. We did not, however, obtain the play of colors described by Dr. Olliver. The purple was caught, but was soon replaced by the light yellow. In another instance, where eight drops were necessary to produce the first response with a cubic centimetre of Fehling's solution, but where a cubic centimetre of urine appeared to decompose all of the copper, as much as two drachms of urine were added to the indigo solution without obtaining any reaction whatever. This same urine showed a beautiful reaction with picric acid by Dr. Johnson's method. When it is remembered that a single drop of diabetic urine will often discharge the color from a whole cubic centimetre of Fehling's solution, it is evident that the urines with which we experimented were not highly charged with sugar. At the same time, as tried by them, the indigo test-papers were found less delicate than either the copper or picric acid test. But we would not, on this account, condemn the indigo test, which has not been fully elaborated. Experiments have just been commenced with it. Our own are open to objection, being confined to the use of the imported test-papers, which may have been impaired by age. Dr. Olliver claims for it great delicacy—such that whenever one drop of the urine gave no reaction with the test, Fehling gave no precipitate, and where, with various urines, a deep violet tint would appear on the addition of the second, third, fourth, fifth, sixth, or more drops, Fehling's solution gave either negative results, or was doubtful. He is, moreover, inclined to believe that when urines which give the well-known yel-

lowish-green reactions with Fehling's solution fail to give any response with the indigo, they are not due to sugar, and when they do respond with indigo, even in producing the first purple tinge, sugar is the responsible constituent, although he admits that normal urine gives a distinct violet after the fifth or sixth drop, which he ascribes to normal sugar. We shall have something to say at some future time with regard to normal sugar, the existence of which in urine we are inclined to doubt.

It will be seen that our own experience does not confirm this view of the extreme delicacy of the indigo, but for the reasons named, we do not desire this view to be final. We trust, our readers may be induced to try the new reagent, for it is only by the experience of numerous careful observers that the truth can be arrived at.

It is claimed, too, that this test is not interfered with by albumen, blood, pus, bile, uric acid, or the alkaline sulphides, which are common in stale albuminous urines.

THE SEWAGE QUESTION IN PARIS.

IT is a mistake to believe that the question of the sewerage of Paris has been definitely and satisfactorily settled. On the contrary, the important problem of providing a proper system of sewerage has been pending for many years, and of late has been brought into special prominence by the publication of the results of the investigations of a Commission of Inquiry appointed in 1880 by the Minister of Agriculture, etc.

As originally designed, the Paris sewers were not intended to carry off anything but surface water, but they have gradually been brought into requisition for other uses, and it is now estimated that at least one-half of the sewage of the city, both solid and liquid, finds its way into these conduits.

There are two systems of sewage disposal for the city. The older one, now partly in use, depends on cesspools mostly located under the houses. In the more modern system an upright canister-shaped metal holder is used to receive the excreta, and provision is made for the escape of the liquids into the sewers. It is these systems that have proved unsatisfactory, and all are agreed that "permanent cesspools, as forming a structural portion of the dwelling, should be superseded." But the manner in which this is to be accomplished is the knotty point over which, at the present time, there is much controversy.

Two very different plans have been proposed as a substitute for the present imperfect systems: the one by the Commission of Inquiry, and the other by the City Engineers. The Commissioners recommend a modified separate system consisting of iron reservoirs and a continuous line of metallic piping, which it is proposed to lay in the sewers already constructed, and specially designed to carry off the solids to the suburban chemical works for utilization. The City Engineers firmly adhere to the plan of direct and immediate delivery of all sewage from the house, by means of a hydraulic siphon, into the sewers, and thence to the pumping stations, with plenty of water as a vehicle. This scheme contemplates the final closing of extra-mural sewage utilization works; the complete abolition of permanent cesspools, of ventilator shafts, and of cesspool emptying; the increase of the water-supply per inhabitant, and the final disposal of the sewage by spreading it upon the land of the peninsula of Gennevilliers.

The scheme of the Commission of Inquiry, which is not unlike the Lienur pneumatic process, except in some minor details, is opposed on account of the enormous outlay required to put it in successful operation. It is estimated that at least 600 miles of piping will be required, and, in addition, at least 230,000 soil-pipes, together with the necessary reservoirs. M. Durand Claye's estimate of the cost of the entire work, including that part of the system of sewers which awaits completion, is placed at £6,000,000. It is also urged as an objection, that the frequent emptying of the iron cesspools carried on in the public streets, although proposed to be done by suction, will, in some part of the process, necessitate direct communication with the outer air, and be productive of a serious nuisance. On account of insufficient gradients, pumping stations will be required here and there in the midst of populous districts; and it is further alleged that the scheme will require the retention, in the outskirts of the city, of poudrette works, which, it is maintained, are nuisances, in spite of every attempt to render them inoffensive in character.

In opposition to the municipal scheme it is contended that the sewers cannot be made water-tight; that the gradients are insufficient for the kind of work required; that the addition of the fecal matter of the population to the sewage will cause unwholesome effluvia; and that the germs of diseases conveyed in the sewage will not be destroyed by the plan of irrigation.

The city engineers disprove the allegation that sewers cannot be made water-tight by a reference to the experience in connection with such works in the city of Paris itself, where it has rarely happened that any leakage has occurred in the sewers, even from those which have been exposed to pressure. It is admitted, that a few miles of sewers (70) have insufficient gradients, and not unfrequently, on this account, become obstructed and give rise to foul exhalations; but these defects are not sufficiently

serious to condemn the whole system, nor such as cannot be easily remedied.

As a thorough ventilation of the sewers by direct communication with the air above ground, is part of the scheme of the Board of Engineers, this proposition has been condemned on the assumption that the result will be a serious deterioration of the air of the streets. This objection has but little weight if dependence be placed in the results of a series of analytical tests recently applied by M. Wurtz, of Paris. Assuming that the sewers are properly constructed, it has been proved that the free admission and circulation of air from above ground not only dilutes and disperses noxious admixtures, but actually destroys them by chemical action.

With regard to the plan proposed by the Municipal Engineers, which contemplates the direct delivery of both solids and liquids into the sewer, and the disuse of filter tanks and separators, and the discontinuance of the old cesspool system, it may be said that it is exceedingly simple and trifling in cost, compared with the scheme advanced by the Government Commission. It is urged, that while it may not be a perfect system, it is, considering all circumstances, the most rational one to adopt; and if, after a fair trial, the dangers and objections to it are verified by practical experience, it will then be not too late to substitute the separate system of metallic piping, commended by the Commission.

One result may be predicted almost with certainty as the outcome of the present agitation of the subject; namely, that before long, Paris will be provided with an improved system of sewage-removal, that whether the one or the other of the above-mentioned plans be adopted (both of which are intended to supersede permanent cesspools and the storage of excreta upon the premises), the results will be of the greatest advantage to the comfort and health of the citizens of Paris.

THE TREATMENT OF HEMORRHAGIC MALARIAL FEVER.

WE publish in the current number an analysis of thirty-three cases of hemorrhagic malarial fever, with special reference to the use of quinine, by Dr. R. D. Webb, of Alabama. A comparison of his results with those of Dr. E. D. McDaniel, related in our issue of July 21st, will prove instructive. Both of these gentlemen reside and practise in the heart of the hemorrhagic malarial district, and both are men of large experience. Dr. McDaniel speaks of quinine as a "dangerous and uncertain remedy," and as "determining an unfavorable result." Dr. Webb regards it with great favor.

Dr. McDaniel narrates eighteen cases, of which twelve were treated with quinine, and six without. Of the twelve cases treated with quinine, seven, or 58.33 per cent., recovered, and five died; of the six treated without quinine, all recovered. Dr. Webb saw thirty-three cases, of which nine were in consultation. Of these, twenty-six were treated with quinine, and seven without. Of the former, twenty-three, or eighty per cent., recovered, and three died. Of the latter, all died.

Thus it will be seen that in Dr. McDaniel's experience no cases treated with quinine recovered, and in Dr. Webb's, none treated without quinine recovered. Statistics are proverbially unsatisfactory, but these results are, at first thought, confounding. In such an important matter as this, however, one is inclined to look below the surface, and seek an answer to the question, "Had I hemorrhagic malarial fever, would I prefer to be treated with quinine or without it?" Such an examination cannot fail to discover the following: In the first place this disease is acknowledged by all, including Dr. McDaniel, to be malarial in origin, for which, at some period of the disease, quinine is generally acknowledged to be a suitable remedy.

Again, although it is true that all of Dr. McDaniels' cases treated without quinine recovered, more than half (59.33 per cent.) of those treated with quinine also recovered, and it does not follow that if those which recovered without quinine had been treated with it, they would have died. Further, if we sum up the cases of both writers, it will be noted that out of fifty-one cases in all, thirty-eight were treated with quinine and thirteen without. Of the former, thirty recovered and eight died. Of the latter, thirteen treated without quinine, seven died and six recovered. So that from either point of view the result seems to be in favor of a quinine treatment.

YELLOW FEVER.

THE origin of the outbreak of yellow fever at the Pensacola Navy Yard is thus far very obscure, but a court of inquiry on the subject has been ordered by the Navy Department, at the request of the Commandant of the Yard, and no doubt every effort will be made to trace it. Surgeon Owen died on the 22d, and on the same day two suspicious cases were reported on Palofox wharf in Pensacola. They were at once transferred to the quarantine hospital, and the house from which they were removed was burned. Soon after their removal one of the cases died, and Surgeon Murray of the Marine-Hospital Service, decided from the post-mortem that it was not a case of yellow fever, but one of pernicious hemorrhagic malarial fever. In this opinion he was sustained by several physicians, but others disagreed, and the true nature of the case is still some-

what uncertain, although it seems probable that Surgeon Murray's opinion is the correct one.

No additional cases are reported in the town, and only two or three at the Yard, and the panic among the inhabitants is subsiding. A house to house inspection of the city has been made, and no suspicious cases reported.

The rumors of a case at New Orleans appear to be without foundation, and there seems little reason to fear any extended epidemic in the United States this year.

THE cholera mortality is steadily diminishing, and the disease has not extended beyond Egypt. At the present writing, it looks as if M. Fauvel's prediction at the Academie de Médecine is likely to be fulfilled, and that the sudden and severe epidemic of 1883 within a week or two will have ceased.

WE congratulate our friends of the New Code on the announcement of the Kansas City College of Medicine, which is "designed to fully meet the wants of an age tired of the dogmas and pathys of an obsolete past." The faculty "is composed of gentlemen of culture from every school and system of medicine that is now recognized by its merits," and includes a professor of "homœopathic therapeutics," etc., and a "professor of allopathic theory and practice." It has a faculty composed of fourteen professors and a board of directors numbering eleven. Of the eleven directors, nine are also members of the faculty.

The announcement before us, which is the second annual one, contains a list of eighteen matriculates at its first session, that of 1882–83. Of these eighteen, eleven received *ad-eundem* degrees at the end of the session, and seven were graduated. These facts speak for themselves, and we respectfully call the attention of the secretaries of the State boards of health and other licensing bodies to them.

APROPOS of the above, we have recently had placed in our hands a letter from a teacher in a Southern medical college who, having heard through a friend that a gentleman intended to study medicine, writes to present the claims of "the medical centre of the South and West, the healthiest large city in America—beyond the reach of yellow fever," etc. Good board for little more than half of what it can be had for elsewhere, and railroad tickets at half rate, owing to a local fair, are among the inducements. He concludes by saying that he is allowed a certain number of beneficiaries, and will take as one the gentleman written to and charge him only fifty dollars, instead of eighty.

What indeed are we coming to? This prize-gift spirit of enterprise, worthy of a third-rate business, deserves to be mentioned only to receive from the profession the severe condemnation it merits.

SPECIAL ARTICLE.

CHOLERA DISINFECTION: ALSO, TYPHOID.

THE existence of a cholera germ—a microbe, or an organized ferment, capable of indefinite multiplication—is one of the facts not susceptible of demonstration, but is rendered in a high degree probable by the mode of propagation and the clinical characteristics of cholera. That the cholera germ is contained in the excreta, and that it diffuses widely through air and water, but not more rapidly than the rate of human communication, are also facts attested by a vast number of well-directed observations. It follows, therefore, that cholera disinfection includes the treatment of the excreta coming from the sick with cholera, and the purification of air and water, the chief media by which the germ or poison is introduced into the human organism.

The agents capable of destroying germs in dejections outside of the body are very numerous, since it is not necessary to exclude the most powerful. Hence, we are not confined to the use of germicides which have proved to be most effective in the body. The problem to be solved in the disinfection of cholera excreta is—what agents are at the same time most destructive, most available, and least expensive? Fire stands first. When clothing, bedding, carpets, and similar articles are soiled by cholera discharges, no treatment is so thorough as burning them. When suitable ovens are available, an efficient means of disinfection is heat, of intensity just short of injury to the fabric. As such facilities are rare, the treatment to be applied consists of boiling water, steam, and such gases as will be mentioned presently under the head of aerial disinfection. The importance of avoiding soiling the bedding, clothing, carpets, and other cotton, linen, or woollen fabrics is very great, since such articles do much to retain, preserve from injury, and promote the diffusion of cholera germs. All who have had to do with cholera patients, know how difficult it is to secure the reception of the dejections in suitable vessels; but it should be done as far as practicable, and the disinfection should be carried out at once. As the rule of action should be *tuto cito et jucunde*, the material of disinfection ought to be kept in readiness, and the discharge, whether by vomit or stool, treated at once. Any satisfactory (*jucunde*) disinfection of such materials can be effected only by the abundant, rather lavish, application of the agent employed, so that every particle of matter and part of the vessel containing it be directly acted on.

It has been quite clearly shown that the corrosive chloride of mercury, is the most effective germicide, *per se:* in other words, that no agent brought in contact with the germs themselves, so certainly kills them; but when the sole object is to destroy, there are more destructive agents available. Neverthe-

less, there being conclusive evidence of its germicide power, a saturated solution of corrosive sublimate may be used with confidence. According to the description of the *United States Pharmacopœia* (1880) it is "soluble in sixteen parts of water and in three parts of alcohol at 59° F." Now, as alcohol has very decided germicide property, a solution of corrosive sublimate in common high wine, or unrectified whiskey, will be more effective than one in water merely. In a gallon of high wine, can be dissolved about one pound of corrosive sublimate, or in any quantity of high wine, corrosive sublimate may be dissolved to the point of saturation, and a tablespoonful of the solution will suffice for each dejection.

Very destructive, and comparatively inexpensive, is a solution of chloride of zinc. This can be readily prepared by dissolving zinc cuttings, or common zinc, in commercial hydrochloric acid. It can be used in this form or be further diluted by the addition of water. The official liquor zinci chloridi (*Pharmacopœia*, 1880) contains one hundred and seventy grains of the chloride to the fluidounce, and this is used for disinfection by mixing a pint of the solution with four gallons of water. The saturated solution prepared as above described, extemporaneously, is more powerful and may be diluted in the proportion of a pint to two or three or four gallons of water. Thus largely diluted it is suitable for the treatment of cesspools, or waterclosets into which the cholera discharges have been thrown, but for a destructive action on the germs in vomit or stool, the undiluted solutions—one, two, or three tablespoonfuls according to quantity—are decidedly preferable.

Next to the chlorides above mentioned are certain metallic sulphates—of iron, zinc, and copper. The most effective of these is the cheapest—sulphate of iron. In the form of commercial copperas, either as powder or in solution, sulphate of iron may be very freely employed without risk. As it is soluble in cold water in the proportion of one to two, this is the measure of strength suitable for disinfection. In the case of liquid dejections a handful of finely pulverized copperas may be added, and as it is inexpensive need not be spared. For the closet, a saturated solution—a pound to a quart of water—and for the cesspool, ten pounds to a bucketful of water will prove effective if used daily during the existence of a cholera epidemic. Saturated solutions of zinc and copper are much more expensive, and probably less effective than the copperas.

These metallic disinfectants are without odor, and hence to the uninstructed may seem inefficient, for in the minds of many the destruction of germs of putrefaction and of disease consists in the production of an ill smell, or the substitution of one foul odor for another. The most notable antiseptics are those which give forth some unpleasant fumes or vapors. The most important of these are members of the phenol group. Common or impure carbolic acid, undiluted, or mixed with some absorbent, is the favorite at present; but although fatal to some minute organisms, it is not equally injurious to all. If used for the disinfectant treatment of cholera discharges, one or two tablespoonfuls should be added to each, whether by vomit or stool. For the cesspool or water-closet into which such evacuations are emptied, the metallic chlorides and sulphates above described are better. The quantity of undiluted carbolic acid recommended for the destruction of cholera germs in the discharges may seem excessive, but, by careful examination, it will be found that the proportion of the disinfectant to the volume of fluid-matter is little more than five per cent. The various derivatives and congeners of carbolic acid are rather less efficient and more expensive. Amongst these may be mentioned salicylic acid, resorcin, thymol, etc. Various other disinfectants are available for the same kind of treatment, as chlorinated lime, iodine, bromine, chloral, but they are less efficient, less easily managed, and more expensive than those already discussed. It cannot be too strongly insisted on that all cholera evacuations should be acted on by the disinfectant selected for this purpose, as soon as passed, and after the vessels are emptied, they should be thoroughly washed with a sufficient quantity of the agent undiluted, or in a saturated solution. When no longer required, such vessels should be broken up and buried with some chlorinated lime, or subjected to high heat in an oven. Wooden close stools retain in their crevices the dried excreta, and are afterwards sources of infection: they should be burned, or subjected to a sufficiently high temperature.

What shall be done with cholera discharges in the homes of the poor, in country places where human ordure is cast on the ground, and in all those houses inhabited by people too ignorant to appreciate the character and source of the danger which menaces them, or too poor or too mean to supply themselves with the material of disinfection? In cities and towns, provided with an efficient health administration, the ignorant and the parsimonious are compelled to carry out the measures of protection necessary. But there are vast stretches of territory and considerable populations, to whom all hygienic precautions are unknown, and from whom, a cholera epidemic appearing, not even the simplest means of prevention can be expected. Cholera dejections soil the bedding, the carpets, floors, furniture, and are thrown out on the ground at any convenient point. What opinion, soever, we may have of Pettenkofer's theories, it can hardly be denied, we think, that the surface-water (*grundwasser*) is an important agency in promoting the diffusion of the cholera poison. To cast out on the ground, or in shallow pits, the dejections, is to insure contamination of the surface-water, and afterwards the general water supply. Such is an important source of contamination of the water supplies to great cities. The question for solution is, how to prevent the contamination of the ground-water when cholera prevails in outlying villages and country places, unprovided with methods of disinfection? What cheap and readily applied disinfectants are available? The principal resource is in absorbent material. Dry earth, sifted to remove coarse particles, acts well and can be used freely. The vomit and

stools thus treated should not be cast out on the ground, but be placed in tight barrels away from houses, or thrown into pits dug in coarse sand or gravel, remote from water-courses. If placed in barrels the contents can be poured into suitable pits after some weeks or months, and the barrels burned. Contaminated clothing, too useful to be destroyed, can be disinfected most cheaply by exposing the articles to sulphurous acid fumes, as hereinafter described, or by subjecting them to sufficient dry or moist heat.

As the air is often the carrier of cholera germs, it is necessary to employ measures for its purification during the existence of the epidemic. Cholera matter containing the mysterious germs, dried and pulverized, readily floats in the air and lodging in the mouth and fauces, reaches the stomach with food and drink. The problem of aerial disinfection, although simple in its terms, is most difficult of satisfactory solution. As germs in the air can be acted on only by gases or vapors, the agents are few in number, and the results obtained uncertain. First in the list may be placed the oxidizing disinfectants—chlorine, iodine, bromine, etc.; and second, the deoxidizing, as sulphurous acid. The proportion of the gas to air required to destroy the vitality of disease germs cannot be stated with precision. This much is certain, however—the proportion effective is irrespirable. Articles of clothing and bedding to be acted on by these gases should therefore be hung up in a close apartment, as much gas should be disengaged as can be contained in that space, and the action should be kept up for many hours. Chlorinated lime is a convenient substance for furnishing chlorine gas in small quantity, but when a large amount is required, it can be best obtained from a mixture of common salt (18 parts), and black oxide of manganese (15 parts), acted on by sulphuric acid (45 parts), diluted by water (21 parts). Chlorine gas is unsuited to the sick room. When an aerial disinfectant is required in the apartment of a cholera patient, iodine serves a useful purpose. Some crystals, or the tincture, placed in a saucer on the mantel, gives off the vapor freely at the ordinary temperature, and much more freely if warmed. As the action of these oxidizing agents is supposed to be due to the ozone liberated by the decomposition of watery vapor, it may be better to produce this agent directly. This is readily accomplished by the oxidation of phosphorus—by placing in a vessel containing some water, a freshly-scraped stick of phosphorus: water is decomposed and a part of the oxygen passes into the state of ozone. An elegant mode of procuring the disinfecting quality of ozone in the sick chamber, is by pulverizing ozonic ether—a solution of peroxide of hydrogen in ether. Placed in the bottle of the hand-ball atomizer, or in the ordinary perfume atomizer, the ozonic ether can be effectively sprayed in the air of the apartment. This has been shown to possess a high degree of disinfectant property; but it is also very inflammable, and cannot be used in a room having an open light or fire.

The deoxidizing disinfectant of most power is *sulphurous acid*. The simple combustion of sulphur in the open air produces this gas. Notwithstanding its suffocating effects, any respirable quantity does not appear to have toxic effects. It is, at the same time, the least expensive and the most active of the aerial disinfectants. A solution of the acid, sufficiently concentrated, can be used against the solid excreta. Contaminated clothing and bedding before washing can be effectively disinfected by the gas by generating it freely in a tight apartment, and continuing the action for many hours. The rooms, halls, and passages of a house containing cholera cases should be fumigated twice a day with the gas. As has been stated, this agent does not affect the health injuriously when breathed in a quantity less than the irrespirable, although, irritation of the larynx, coughing, oppression of breathing, and a strong metallic taste are caused by it. Chlorine is far more dangerous, for there is reason to believe pneumonia may be excited by a quantity which does not cause much distress. The bleaching effects of sulphurous acid are due to the formation of colorless sulphites, which being soluble are washed out. Certain fabrics may be much damaged by it, therefore. But we cannot too strongly emphasize the fact, that no kind or degree of aerial disinfection will take the place of such care in the reception and disposition of cholera excreta, as will prevent the diffusion of dried cholera matter in the air.

More frequently, contamination of the water-supply is the source of infection. Fortunately, we have a ready means of destroying the cholera germs in water. These germs are probably destroyed at the temperature of boiling water. During the existence of an epidemic—for some time, indeed, before its actual advent—only water that has been boiled should be drunk. As, however, boiling water is insipid, because of the loss of its gases, it should be aerated by passing though one of the now much-used domestic filters, or by pouring from one vessel to another through the air. In this way, all its natural liveliness will be restored.

It should be clearly understood that contaminated water is not rendered innocuous by boiling. Some germs, there is reason to believe, resist successfully a heat of 212° F., and organic matter is not destroyed at this temperature. Not all the constituents of sewage can, therefore, be rendered harmless by boiling the drinking water containing it. This fact, then, must give additional force to our suggestions regarding the anxious care which should be given to the reception and final disposition of cholera excreta.

Whilst we thus fix our attention on Egypt and watch with anxious solicitude the progress of the cholera epidemic, we should not be unmindful of an evil always present with us. It is hardly doubtful that typhoid, like cholera, is propagated by a peculiar germ. Notwithstanding the wide differences between cholera and typhoid as regards their natural history and development, there is a certain similarity in the behavior of their causal germs. Of the two, the typhoid should be more feared, and should be the object of more careful preventive

measures. The typhoid germ is always in action, and, when the aggregate mischief is summed up, it is found to be, if not more, scarcely less destructive.

The typhoid, like the cholera germ, is probably contained in the dejections of the patient. It may enter the water-supply, or, dried and pulverized, be distributed by the air, or be carried up with the gases of putrefaction from cesspools and sewers. It lies dormant for an unknown period, and acquires activity under conditions not now ascertainable. Entering the human body like the cholera germ, it finds its favoring habitat in the intestinal canal, but differs from the latter in exciting a slowly developing disorder.

It is obvious, then, that the disinfectant treatment of cholera poison is equally applicable to the typhoid. If we substitute for "cholera disinfection," *typhoid disinfection*, our remarks may still be made. In closing, we can render no better service than to urge on our readers the necessity of a careful and complete disinfection of typhoid dejections, if we would rid the community of a perennial pest.

REVIEWS.

A PRACTICAL TREATISE ON IMPOTENCE, STERILITY, AND ALLIED DISORDERS OF THE MALE SEXUAL ORGANS. By S. W. GROSS, A.M., M.D., etc. Second edition, thoroughly revised. Large 8vo. pp. 176. With sixteen illustrations. Philadelphia: Henry C. Lea's Son & Co., 1883.

THE author of this monograph is a man of positive convictions and vigorous style. He utters no uncertain sound when he speaks, and states his opinions, as he feels them, strongly. This is justified, in the case of his publications thus far issued, by his experience, which has been considerable, and by his study, which has gone hand in hand with his experience. In regard to the various organic and functional disorders of the male generative apparatus he has had exceptional opportunities for observation, and his book shows that he has not neglected to compare his own views with those of other authors. The result is a work which can safely be recommended to both physicians and surgeons as a guide in the treatment of the disturbances it refers to. It is the best treatise on the subject with which we are acquainted.

TRANSACTIONS OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA. THIRD SERIES. VOLUME THE SIXTH. 8vo. pp. xliv. 451. Philadelphia: Printed for the College, 1883.

THE present volume of *Transactions* is by far the largest and most valuable that has ever been issued by the College, and reflects the increased interest in its welfare taken by the Fellows.

The volume contains thirty-one papers, full abstracts of which have, from time to time, appeared in our reports of the meetings of the College. Two of the most notable papers were read by special invitation of the College. That on the *Bacillus Tuberculosis* will be remembered as a lucid and most interesting exposition and demonstration made by Dr. Whittaker, of Cincinnati, just after his return from study in Koch's laboratory, and Prof. Leeds' able contribution to our knowledge of the value of the various *Infant Foods* now on the market is still fresh in the minds of our readers.

The volume is handsomely printed and bound, and has been carefully edited by the Recorder of the College, Dr. J. Ewing Mears.

SOCIETY PROCEEDINGS.

PHILADELPHIA ACADEMY OF SURGERY.

Stated Meeting, May 7, 1883.

THE PRESIDENT, S. D. GROSS, M.D., LL.D., D.C.L., IN THE CHAIR.

DR. JOHN H. PACKARD reported the following case of

SUPRA-HEPATIC ABSCESS.

B. Bradley, æt. 33, an Irishman, of good constitution and sober habits, had been under the care of Dr. T. Stanton Crowley for several weeks, his first symptoms having been severe chill and excessive abdominal pain. Subsequently he had much pain, flatulence, and constipation. He was several times threatened with general peritonitis, but the symptoms were controlled by turpentine stupes, etc.

Dr. Crowley asked me to see Bradley, on March 31, on account of a firm, tense swelling in the right hypochondrium, attended with some hectic and a good deal of embarrassment of respiration.

On the 19th of April, I saw the case again. There was now decided fluctuation, but percussion was abnormally clear all over the right chest and down over the tumor, and there was metallic tinkling on auscultation. We decided upon aspiration.

April 20, Dr. W. Pepper examined Bradley, and agreed with us as to the propriety of aspiration, which I proceeded at once to perform, but could only obtain a quantity of very fetid gas. At the time, we were under the impression that the instrument had entered a distended colon. The operation gave a considerable amount of relief to the breathing, but the man continued to sink, and died about thirty hours afterward.

An *autopsy* was made on the 23d by Dr. Crowley and myself. The body was well developed and muscular; it had been kept on ice, and the degree of rigor mortis could hardly be determined. There was no decomposition. On cutting into the abdomen, a cavity was opened, which proved to be an enormous supra-hepatic abscess, the walls lined by a thick deposit of cheesy lymph. From this cavity there was sponged out about a gallon of fetid pus; it contained also, as nearly as we could judge, a like bulk of offensive gas. The diaphragm was pushed very much upward, compressing the right lung into an extremely small space. Within the very much reduced pleural cavity there was thick, creamy pus, while the base and inner and posterior surfaces of the lung were firmly adherent by lymph. The pericardium and left pleura were full throughout of inflammatory adhesions, and the pericardium covering the heart was much thickened by lymph effused in the subserous areolar tissue. Traces of general peritonitis were observed. The liver was mottled, and stained of a dark olive-green to the depth of about a quarter of an inch all over its upper surface. It was clear that the aspirator needle had been inserted into the cavity of the abscess, but that the surface of the liquid was beyond its reach, so that a portion of the gaseous contents only could be withdrawn in this way.

DR. J. EWING MEARS thought that we could readily see why, from the position of the abscess, the patient being on the back, that there should be resonant percussion on the anterior surface of the chest, and that the resonance would be tympanitic. As depicted on

the board, it represents a case of hydro-pneumothorax —air and liquid in the chest.

DR. PACKARD replied that it was tympanitic. It was abnormally resonant. Dr. Pepper was inclined to think that it was a case of hydro-pneumothorax.

THE PRESIDENT asked how far the fluid was from the external surface?

DR. PACKARD said it was so far that when the aspirator needle was introduced as far as it would go, it did not reach the fluid. Dr. Pepper suggested that if the man lived, the aspirator needle should be introduced in the ordinary place for aspirating the pleural cavity. In which case, we should have drawn off some liquid, but would have given the patient no relief.

DR. CHARLES B. NANCREDE said that in connection with this case he would like to mention another of peri-hepatic abscess. In many respects it was like the one described, but there was no collection of gas in the pleural cavity. The history of the case is as follows: A young man, aged about 19, was admitted to the medical ward of the Episcopal Hospital under the care of Dr. Morris Lewis. There was absolutely no history of any kind to be elicited. He stated that he only began to complain ten days before admission; previous to that time he was well. He then became sick in a vague sort of a way, with malaise and the like; of course, if he had been under careful observation at this time, hectic would have been detected. On admission, the thermometer and pulse-rate gave evidence of suppuration in some part. The physical examination showed that the liver was apparently pushed up about two ribs above the normal; dulness extended downward to about two inches above the umbilicus. In the back, fluctuation could be detected. Introducing an aspirating-needle at this situation, Dr. Lewis drew off half a drachm of very offensive fluid. His opinion was that it was an abscess of the liver. I came to the conclusion that it was peri-hepatic, and that one wall was formed by the colon, and that this accounted for the intensely fetid gas. I tapped him, and obtained pus on two or three subsequent occasions. He got very much better, but one night was found dead in bed. The post-mortem was made by myself several hours after death. Some frothy pus was found in the trachea, but although perforation of the stomach was found, there was no pus in the stomach. The cavity of the abscess could not have contained more than half a pint of fluid. The opening was three or four inches from any part of the abscess cavity. At the post-mortem there certainly was no portion of the gut or hollow viscera within several inches of the abscess cavity. The lungs were carefully removed and water forced into them, but no perforation was found. There was no pus in the stomach, nor any discharged by the bowel. How the pus got into the trachea and what was the cause of death, I do not know. What I should like to know is, where the fetid pus comes from when the gut has no connection with the abscess.

DR. JOHN H. PACKARD suggested that there had been an escape of pus, which had been vomited, and that a portion had been drawn into the trachea.

DR. NANCREDE replied that the opening in the stomach was three or four inches from the abscess.

DR. FERDINAND H. GROSS exhibited a

SPINDLE-CELLED SARCOMA.

The specimen of periosteal spindle-celled sarcoma which I have to exhibit, was removed by amputation of the right arm at the junction of its middle and upper thirds. The patient, Conrad Seybert, a German, aged sixty-two years, and by occupation a carpenter, presented himself at the out-patient department of the German Hospital, for the first time on April 23d (two weeks ago), and was admitted to the Hospital on the following day. My resident, Dr. A. B. Hirsh, who saw the patient when he applied to the dispensary, informs me that the man was in great pain, presented an anæmic appearance, and that his arm hung helpless by his side. On examination in the hospital, I found a tumor of the size of a large fist occupying mainly the posterior aspect of the lower end of the right humerus, extending over both condyles, but bulging out considerably on the inner side. It was slightly lobulated, and the greater part of the mass imparted a rather firm, somewhat elastic feel, while at several points it was quite soft, and at one of these the resident had made a puncture, believing there was contained here a collection of pus, which, however, proved not to be the case, a very little bloody fluid only escaping. The movements of the elbow-joint were much impeded by the proximity of the growth, but the structures of the joint itself did not appear to be involved in the disease, nor did this extend to the ulna or radius. The forearm and hand were swollen, the subcutaneous veins were not markedly distended; one of the lymphatic glands in the axilla, however, was slightly enlarged.

In making inquiry as to the early history of the case, the patient stated with positiveness that the tumor began to grow about ten months previously, having been preceded for several weeks by violent shooting pains that extended down the arm to the fingers. He had not for many years sustained any injury to the arm, but he stated that twice during his life he had hurt himself at the spot where the tumor afterwards made its appearance. Although these injuries occurred many years ago, the first one in his childhood, by a fall from a tree, I mention it here because the patient dwells upon the fact with some emphasis that ever afterwards this spot upon the inner condyle remained morbidly sensitive, and on being struck would usually continue to pain him for ten or fifteen minutes. When about twenty-eight years of age, while engaged at work as a carpenter, he fell from a building and again injured his arm at the same place, and was disabled from pursuing his usual occupation for three or four months. The occasional tenderness when the part was struck since continued. The patient is positive that on neither of the occasions stated did he sustain either a fracture or dislocation, and he is equally certain that no traumatism has since occurred. When he first noticed the new growth it was hard, immovable, and about the size of a marble. There appears to have been no complete intermission in its growth, though for a time its increase was rather slow, but later on it grew with constantly increasing rapidity. I pronounced the tumor to be a sarcoma, and advised amputation. On the 27th of April (ten days ago), after consultation with my colleagues at the hospital, the patient was etherized, and I performed the operation at the point above indicated.

The specimen as here presented has been bisected down to the bone, to which it is loosely attached. In the line of this incision the bone is denuded of periosteum, but shows no other signs of disease. The mass is soft, and I do not discover in it or its capsule any hard or long points. In dividing the tumor, a small area of interstitial hemorrhage has been exposed, but no large bloodvessels appear to course through the neoplasm. My colleague, Dr. Barton, took several pieces of the growth for microscopic examination, and informs me that it is a spindle-celled sarcoma with some round cells intermixed.

Since the amputation the patient has had no bad symptoms. The traumatic fever did not reach a high grade, and the wound looks very well. He has no pain to speak of, and sleeps without the use of narcotics, while before the operation he required these constantly. The enlargement of the lymphatic gland

in the axilla has entirely disappeared, and seems to have been simply hyperplastic, due to irritation, and probably contained no sarcomatous elements.

DR. O. H. ALLIS said he had an opportunity of examining this case before he went to the German Hospital. He called at Jefferson College Hospital on two occasions, and we advised him to return and have the arm amputated, but he did not profit by the advice. I thought, and I presume that Dr. Gross also thought, that the tumor was attached so tightly to the bone that it might prove to be an osseous tumor. There were hard points on the tumor. In some places it was soft and nodulated, the softened parts being the size of an ordinary hen's egg. I was surprised to find that the bone was not involved, and that it could safely be removed at the point at which it was amputated.

DR. PACKARD asked whether it would not have been safer if the arm had been removed at the shoulder-joint. Where the bone itself is involved, the removal of the bone at the articulation makes a great difference as to the probability of the return of the disease. Whether this rule holds good in regard to periosteal tumors, he could not say. It seemed to him that greater safety would have been insured by removal of the bone at the shoulder-joint.

DR. F. H. GROSS, in reply, said: My colleague, Dr. Barton, had the same idea that the tumor started from the bone, but I believed it to be periosteal. I thought that I could discover movement, and therefore preferred the operation which I performed to amputation at the shoulder-joint. There are others who, perhaps, can state whether an osseous tumor is more likely to return than a periosteal tumor.

DR. BARTON said that after the man was under ether, it was readily determined that the tumor was separate from the bone.

DR. J. EWING MEARS said it is well known that the tendency to recurrence in spindle-cell sarcoma is not as great as in round-cell sarcoma. This mass was, he believed, a spindle-cell sarcoma. This, of course, could not be determined previous to the microscopical examination. In these cases of sarcoma, no matter in what part of the osseous system they may appear, it is, I believe, an accepted fact that they are not liable to return after complete extirpation.

THE PRESIDENT.—The cause that produced the disease originally in the man may be able to cause the development of another tumor, but in the true sense of the term, this cannot be spoken of as a return.

DR. S. W. GROSS.—There are one or two points on which I may be able to throw some light. In the first place, let me say that the small spindle-cell is equally malignant with the small round-cell sarcoma. A small cell tumor, no matter what the morphology of the cell, constitutes a medullary tumor. The large spindle-cell sarcoma is comparatively innocuous.

In regard to the question whether or not it would have been better to remove the bone at the shoulder-joint, that could have been determined at the time of operation by making a section of the bone. The medulla is likely to become affected through the Haversian system. If the medullary tissue were affected, the amputation would have to be made at a higher point. In the case that has been described, I should have amputated at the shoulder-joint. Small-cell periosteal sarcomata are among the most malignant of all tumors. The chances are two to one that this man will die from secondary growths in some part of his body, as, for instance, in the lungs.

DR. F. H. GROSS.—I would ask whether these tumors are more common in the young, or in the old?

DR S. W. GROSS —Spindle-cell sarcomata are tumors of late life.

DR. MEARS.—I can only speak of some experience with periosteal tumors in connection with the jaws. I have removed a number of spindle-cell sarcomata from both the upper and the lower jaws. Patients living in this city, from whom I removed such tumors six, eight, ten years ago, are still living and in good health. While the number is not large, yet I am inclined to think that in these cases the return of the disease is not to be expected. The specimens from these patients were examined by competent microscopists, who pronounced them to be small spindle-cell sarcomata. The investigations of Dr. Gross in regard to this subject have been such as enable him to speak with authority, and I would ask him if it was not the opinion, a few years ago, that spindle-cell sarcomata were on the border-line, and were not as malignant as the round-cell variety?

DR. S. W. GROSS.—A few years ago we did not have as accurate a knowledge of histology, and we did not make the distinctions which we do now; but there is no doubt about the fact that the small spindle-cell sarcoma is excessively malignant as contra-distinguished from the large-cell tumor. I was speaking of sarcoma of the humerus and of the long bones, not of the jaws. The situation of the tumor greatly modifies its malignancy. Sarcoma of the jaw is far less malignant than sarcoma of the long bones.

DR. C. NANCREDE.—There is an anatomical fact which may explain why sarcoma of the jaws—especially of the upper one—should be less malignant than the same disease in the long bones. The disease tends to disseminate itself through the vascular system, and not through lymphatics. There is practically no medullary tissue worth mentioning in the upper jaw; there is very little intra-osseous vascular tissue whereby the general system can become involved.

DR. J. PACKARD.—I do not want to prolong the discussion, but I should like to say that of all tumors we operate on, it seems to me that there can be none more hopeless than tumors of the upper jaw. I would ask if the members of the Academy have not had a similar experience? When we deal with polypus of the antrum, or polypi of the nose, which appear to be perfectly simple, we always have before us the grizzly shadow of what may be a malignant tumor of the upper jaw. Perhaps, after one or two operations, the disease returns and goes on to the death of the patient. It seems to me that the upper jaw must be made an exception; it may be that in the lower jaw sarcomata are not so dangerous. I can look back on very few cases in which the disease did not return. I know of one or two cases in which you, Mr. President, operated, and in which the disease returned and the patient succumbed.

THE PRESIDENT.—I hardly remember one in which it did not return.

DR. S. W. GROSS.—Do you mean sarcoma as defined by the minute anatomy of the cell, or do you mean carcinoma? Carcinoma will return; are you speaking of sarcoma proper?

DR. PACKARD.—My impression is that the tumors were sarcomata. I used to belong to the Pathological Society, and was its president for a couple of years; but, if I should now go to a meeting of the Society, I should keep very quiet. I know nothing of the refinements of pathology of the present day. I had always believed that malignant tumors of the upper jaw were sarcomata. It certainly seems to me that we may have here a distinction without a difference.

DR. S. W. GROSS.—There is an exceedingly great difference. The difference in situation makes a great difference as to the malignancy of sarcoma. Sarcoma of the breast is far more malignant than carcinoma of that part. I do not believe that medullary sarcoma of

the breast is ever cured. Carcinoma appears in the young, sarcoma in the old.

DR. MEARS.—The position of a tumor—whether it arises from the periosteum or whether it arises from the antrum—makes a great difference as to its malignancy. Periosteal tumors arising from the fibrous periosteum can be removed without much probability of their returning; but when you have a tumor which takes its origin from the bone, you have a very difficult tumor to deal with.

In regard to the return of sarcoma, Dr. Gross has said that sarcoma is more malignant than a carcinoma. I saw a case in which a distinguished surgeon had removed a tumor of the breast which he regarded as cancerous. He asked me to attend an operation for the removal of a tumor from the vertex of the skull in the same patient. He showed me the breast, and said "there is a case of cancer cured." The cicatrix was soft and free from disease. I pointed to the large osseous sarcoma of the head, and said "there is your cancer of the breast." In other words, there was a return of the sarcoma. Microscopical examination showed that it was a sarcoma. The interval between the two operations was one year.

THE PRESIDENT. — There is a great difference in regard to the return of the disease in other parts of the body after its removal from one locality.

DR. ADDINELL HEWSON.—Dr. Richard Norris, in a recent work on the pathology of the blood, calls attention to the growth of lymph-cells from the medullary canal of the bones. This may explain the very frequent origin of these tumors in the long bones. He gives my grandfather the credit of having described both the large and the small cells; he makes a difference in the value of the two in the fact that the small cells are the source of the blood-corpuscles and of all morbid growths.

DR. BARTON.—There has been another reason suggested why malignant tumors of the upper jaw are so liable to return: it is owing to the fact that it is necessary that these tumors should be developed to a considerable extent before a diagnosis that would warrant so serious an operation as the removal of the upper jaw can be made. The jaw is usually immensely disfigured, the tissues so thin that an exploring needle could be thrust into the antrum, and, perhaps, with openings and ulceration over the surface, or through the palatine process, into the mouth. Earlier than this the diagnosis cannot be made with such certainty as to warrant the removal of the jaw.

DR. PACKARD reported that the patient operated on for

STRANGULATED VENTRAL HERNIA,

whose case was related at the last meeting (see THE MEDICAL NEWS for July 14, 1883, p. 45), had continued to improve steadily. The wound had entirely healed, and the parts were quite free from pain or soreness. The silver-wire suture was buried in the tissues, but gave no sign of its presence.

Some delay had been caused in her return to active life by the formation of a superficial abscess in the supra-pubic region, but this has now opened spontaneously, and is healing up. Her bowels are regularly moved every day, and her general condition is excellent.

NEWS ITEMS.

MONTREAL.

(*From our Special Correspondent.*)

ENDOWMENT OF MCGILL MEDICAL FACULTY.—At the semi-centennial celebration in October last, a gentleman offered the Faculty $50,000, if, by the first of August, 1883, an equivalent sum was raised in commemoration of the late Dean, Dr. G. W. Campbell. This has been done, and on the 19th inst. Hon. Donald A. Smith handed Dr. Howard a check for the $50,000, to be known as the "Leanchoil" endowment.

Mr. George Stephen has given $50,000 to the general hospital for a memorial wing to the late Dr. Campbell, who was for many years a surgeon to the Institution and Chairman of the Medical Board.

THE LAVAL QUESTION.—The battle between the two French Schools of Medicine in Montreal still rages fiercely, and the old *École de Médicine et de Chirurgie* is making a gallant fight for existence, though against terrible odds. The end is now not far distant. It will be remembered that when Laval University of Quebec, established a branch at Montreal in 1876, the existing French School was taken as its medical faculty. Troubles arose and the school severed its connection with Laval, preferring to be independent. Some of the professors, however, elected to remain with Laval and formed another faculty, and the struggle has been between these two bodies. The decrees from Rome state that there shall be but one Catholic school, and that Laval must be supported. The old school has had a good deal of encouragement from the clergy of the Montreal diocese, and moreover, it has had for years agreements with the Sisters of the Hotel Dieu, the Maternity Hospital, and the Dispensaries, whereby it controls the medical teaching, etc., in these institutions. Extreme measures have finally been taken by the Bishops, who have commanded the ladies of these establishments to close their doors to the professors and students of the old school, and admit only those of Laval. To this the sisters have consented, although in so doing they are probably liable to a civil action.

A pastoral letter from the Bishop of Montreal was read in all the churches a Sunday or two ago, condemning the old school as in rebellion against the church, and virtually excommunicating the professors and students. Dr. Desjardin one of the professors, has gone to Rome to make a final appeal to the Pope, and if unsuccessful, the school must doubtless close. The students remain loyal, and it is announced that the session will open as usual on October 1st. A legal action may compel the Sisters of the Hotel Dieu and Maternity Hospital to abide by their agreements, but if this is not done, the days of the old Montreal School of Medicine are numbered.

CANADA MEDICAL ASSOCIATION.—The Annual Meeting takes place at Kingston, Ont., on the 5th, 6th, and 7th of September, under the Presidency of Dr. John Mullin, of Hamilton.

CHOLERA MORTALITY IN EGYPT.—

	Cairo.	Alexandria.	Total for Egypt.
August 21,	1	37	131
" 22,	...	31	...
" 23,	0	33	...
" 24,	...	26	200
" 25,	...	22	167
" 26,	...	17	81
" 27,	...	12	171

The disease is said to have appeared in Sumatara, but the report lacks confirmation.

THE YELLOW FEVER AT PENSACOLA.—Two new cases of yellow fever have been reported at the Navy Yard. Surgeon Owen died on August 22, and his wife on the 27th, and on the same day their second daughter was stricken down with the disease.

Passed Assistant Surgeon Guiteras has volunteered for duty at the Yard, and has already arrived there.

The house to house inspection at Pensacola, ordered by Surgeon-General Hamilton, resulted in the discovering of two cases of supposed yellow fever in a sailor's boarding-house on Palafox Street wharf, which were removed to the Quarantine Hospital on Santa Rosa Island, where one of the cases died on the same evening. On post-mortem examination, the disease proved not to be yellow fever. The house and contents were destroyed, and the premises were surrounded by a guard. The men proved to be deserters from the bark Dogmar from Limerick, which arrived at Pensacola on the 17th, after three weeks spent up the Bay. The Dogmar brought a clean bill of health. Surgeon Murray, under date of August 23, reports these cases as malarial rheumatism.

A cordon has been established around the city, which is seven miles from the Navy Yard.

ORIGIN OF THE CHOLERA AT DAMIETTA.—A very interesting report has been published by CHAFFEY BEY as to the origin of the outbreak at Damietta. After a careful analysis of all the circumstances of the case, he arrives at the conclusion that the cholera was not imported, but broke out spontaneously on account of the condition of the river and city, which this year presented conditions similar to those found on the banks of the Ganges when the epidemic made its appearance. The great fair at Damietta attracted a crowd of 15,000 people, who for eight days lived on foul water and decayed fish.

THE GERMAN CHOLERA COMMISSION —The commission, of which Dr. R. Koch is President, nominated by the German Government to study the nature of the cholera outbreak in Egypt, sailed for Alexandria on the 16th of August.

CHOLERA PRECAUTIONS IN PARIS.—In his report to the Conseil d'Hygiene, DR. DUJARDIN-BEAUMETZ recommends, as preventive measures in case of an outbreak of cholera, that solutions of sulphate of copper and zinc, and especially chloride of zinc, be used for the disinfection of clothing and bed-linen. During the course of the disease the patient should be isolated; curtains, carpets, and hangings should be removed, and thoroughly disinfected with a solution of these salts (ʒviss–Oj). After the room has been emptied, a fire should be built, and the room thoroughly disinfected—burning charcoal containing ʒv of sulphur for each cubic yard of the room. The room should be tightly closed for twenty-four hours, after which it must be ventilated for one week before use.—*L'Union Méd.*, August 9, 1883.

PERSONAL PRECAUTIONS AGAINST CHOLERA.—M. PASTEUR, according to *Le Temps*, has formulated the following instructions for the personal protection of the members of the French Commission which has gone to Egypt to study the cholera outbreak.

These instructions are instituted on the hypothesis, which he considers very probable, if not certain, that cholera does not enter the human organism by the air-passages, but that it does so only by the digestive canal, unless under very exceptional circumstances: 1. Not to make use of the drinking water of the locality in which the mission will be located without having previously boiled the water, and shaken it well, after it has become cold, for two or three minutes, in a bottle half filled; or the water may be put into vessels previously heated, "vases flambés,"—that is to say, vessels that had been subjected to air heated to about 300° Fah. or even more, the higher the temperature the better. The natural mineral waters may be employed with advantage instead. 2. Make use of wine that has been heated in bottles to about 135° Fah., and which should be drunk in glasses also previously heated. 3. To make use of alimentary substances only after being well cooked, and fruits in their natural state, but previously washed with water that had been boiled, and preserved in the same vessels in which it was boiled, or had been transferred into those previously heated. 4. To make use of bread cut up into thin slices and submitted to a temperature of about 300° Fah., during twenty minutes or more. 5. All the vessels employed for alimentary purposes should also be previously subjected to a temperature of 300° Fah. or more. The bed-linen and towels should be plunged into boiling water, and then dried. 7. The water for washing or bathing should be previously boiled, and, after being cooled, mixed with solutions of thymic or of carbolic acid, the former in the proportion of 1 to 500 parts, and the latter 1 to 50 parts. 8. The hands and face should be washed frequently during the day with boiled water, and to which should be added solutions of thymic and carbolic acid. 9. It is only in cases where the bodies of patients who have died from cholera or their soiled linen has to be handled that it would be necessary to cover the mouth and nostrils with a small mask formed of two pieces of thin plates of metal, enclosing between them a little cotton-wool of not more than one centimetre thickness, the mask having been submitted to 300° Fah. only, and renewing the temperature of 300° on each fresh exposure to contagion.—*Gaz. Hebdom.*, August 10, 1883.

STATE MEDICAL SOCIETY OF WISCONSIN.—The State Medical Society of Wisconsin will hold an adjourned session at the Court House in the city of Milwaukee, commencing on Tuesday, September 4, 1883, at eight o'clock P.M. This meeting is to take the place of the regular annual session, which, without the transaction of any general business, and at the request of several members, was adjourned to the above-named date.

As the President, Dr. T. P. Russell, is now absent in Europe, there will be no Presidential address.

It is expected that an unusual amount of time will be devoted to the discussion of medical topics, and by vote of the last session of the Society, the subject of the paper then presented by Dr. Senn, to wit—"the Pathology and Morbid Anatomy of Tubercle"—was made a special order for discussion at this meeting.

Another subject of special interest, and one which, it is anticipated, will be the subject of profitable discussion, is presented in the resolution by which the Committee on Pathology was instructed to inquire into "the possibility of relationship and causation of erysipelas, diphtheria, and puerperal fever."

The Chicago and Northwestern, the Milwaukee and St. Paul, the Wisconsin Central, the Milwaukee and Northern, and the Milwaukee, Lake Shore and Western Railroads will return members who have paid full fare over their own roads, in going to Milwaukee, for one-fifth of the usual rate, on presentation of certificate of attendance, which will be furnished by the Secretary.

THE LEHIGH VALLEY MEDICAL ASSOCIATION.—The third annual meeting of this Society was held at Easton on August 15th. The President, Dr. Traill Green, delivered an address on "The Doctor of the Olden Time," and Dr. C. K. Mills, of Philadelphia, by invitation, read an interesting paper on hysteria.

Dr. R. Leonard, of Carbon, was elected President for the ensuing year.

SMALLPOX IN NEW ORLEANS.—There were nineteen deaths in New Orleans from smallpox for the week ending August 18th.

HAVARD MEDICAL SCHOOL.—It is announced that Dr. Calvin Ellis has resigned the Deanship of the Harvard Medical School, and that Dr. H. P. Bowditch has been elected his successor.

SIR WILLIAM MACCORMAC sailed from Liverpool on the 23d ult. on a brief visit to this country.

THE GARFIELD MEMORIAL HOSPITAL.—A statement has recently been published to the effect that the plan of establishing a Garfield Memorial Hospital in Washington City had been abandoned for lack of support and that the money thus far contributed for that purpose will be turned over to the Garfield Monument Fund. Mr. Thomas Fisher, of the Garfield Hospital Board, states that the report of the abandonment of the hospital scheme was entirely without foundation.

On the contrary, the Board has purchased the L. H. Schneider property, at the head of Tenth Street, on the elevation overlooking the city, for $38,000, and obtained possession of it on August 1st. There is a fine double brick house on the place, with out-buildings and nearly seven acres of ground. It is the intention of the Board to begin the erection of a wing to the house, to cost $15,000, and Dr. J. S. Billings will superintend the work. The hospital will be open for the reception of patients soon. The Board has the money in bank to pay for these improvements, and is in earnest about this matter.

THE DATE OF EXPIRATION OF THE TERM OF SERVICE OF THE SURGEON-GENERAL OF THE NAVY IN DISPUTE.—A Washington telegram to the *Tribune* states that in 1879 there was a vacancy in the office of Surgeon-General and Chief of the Bureau of Medicine and Surgery in the Navy, which was filled by the selection of Medical Inspector Philip S. Wales, who was appointed Surgeon-General on August 1, 1879. The appointment was bitterly opposed by several surgeons who were Dr. Wales' senior in rank, and they waged war against his confirmation by the Senate. They were defeated, and on January 20, 1880, Dr. Wales received his commission for four years. The present aspirants for the place, who comprise all the medical officers of the Navy senior to Dr. Wales, contend that his term expired on August 1, four years from the date of his original appointment, and that all official acts performed by him since that date are illegal. Surgeon-General Wales insists that, unless sooner removed by the President, his term of office will not expire until January 20, 1884, four years from the date of his commission. He is a candidate for reappointment.

There is some talk of an effort to have the question as to when Dr. Wales' term expires referred to the Attorney-General for his opinion, inasmuch as this is the first controversy of the sort that has ever arisen in the naval service.

THE COMPOSITION OF HOSTETTER'S BITTERS.—Internal Revenue Commissioner Evans has sent a circular to all collectors and revenue agents, inclosing a copy of his letter to Hostetter & Smith, respecting the "bitters" made and sold by them. In part the circular reads as follows: "The analysis of the compound shows it to be made of a very strong alcoholic liquor, and very little else—so little of anything else that information received at this office leads to the belief that it is now being sold very extensively as an alcoholic beverage, and that efforts are being made to evade the law requiring payment of the tax due the United States from retail liquor dealers. These facts, and especially the analysis of the bitters, which itself justifies very great suspicion, lead me to enjoin the utmost vigilance upon all revenue officers, so that no one liable for the tax shall escape its payment by any evasion or false pretence whatever. It may also be added that the terms of the letter to Messrs. Hostetter & Smith are applicable to the case of every other preparation of a like alcoholic character, and especially where there are grounds for strong suspicion that distilled spirits are sold under the guise of a medicine.

HEALTH IN MICHIGAN.—Reports to the State Board of Health for the week ending August 18, 1883, indicate that tonsillitis, cholera infantum, and bronchitis have increased in area of prevalence.

Including reports by regular observers and by others, diphtheria was reported present during the week ending August 18, and since, at eighteen places, scarlet fever at twelve places, and measles at nine places.

Hay fever is now quite prevalent, ragweed beginning to blossom August 17.

The correspondent at Hudson reports an unusual tendency, for that locality, to congestion and irritation of nerve-centres and the meninges of the spinal cord and brain.

OBITUARY RECORD.—Died in Paris, on August 5th, PROF. PARROT, at the age of 59 years. Receiving his degree of Doctor in Medicine in 1857, he rapidly rose to Agrégé de Faculté in 1860, Physician to the hospitals in 1862, Professor of the Faculty in 1876, Member of the Academy in 1878, and Physician in Chief of the Legion of Honor in 1879.

—— Our Italian exchanges record the death, in Florence, of DR. FILIPPO PACINI, Professor of Topograghical and Microscopical Anatomy, at the age of 61 years. He was the discoverer of the corpuscles which bear his name.

OFFICIAL LIST OF CHANGES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 20 TO AUGUST 27, 1883.

CLEMENTS, BENNETT A., *Major and Surgeon.*—Relieved from duty with the Army Medical Examining Board, New York City, N. Y.—*Par. 11, S. O. 193, A. G. O., August* 22, 1883.

MIDDLETON, J. V. D., *Major and Surgeon.*—Relieved from duty at Fort Hays, Kansas, and assigned to duty at Fort Leavenworth, Kansas.—*Par. 2, S. O. 169, Department of the Missouri, August* 18, 1883.

WILLIAMS, JOHN W., *Major and Surgeon.*—Granted leave of absence for one month on Surgeon's certificate of disability.—*Par. 1, S. O. 109, Department of the Columbia, August* 8, 1883.

BARTHOLF, JOHN H., *Captain and Assistant Surgeon.*—Assigned to temporary duty at Vancouver Barracks, W. T.—*Par. 2, S. O. 109, Department of the Columbia, August* 8, 1883.

FINLEY, J. A., *Captain and Assistant Surgeon.*—Relieved from duty at Fort Concho, Texas, and assigned to duty at Fort Stockton, Texas, as Post Surgeon.—*Par. 1, S. O. 101, Department of Texas, August* 16, 1883.

KIMBALL, JAMES P., *Captain and Assistant Surgeon.*—Relieved from duty in Department of the Platte, and to proceed to New York City, and report in person to the President of the Army Medical Examining Board, for duty as a member of that Board, *vice* Surgeon Clements, relieved.—*Par. 11, S. O. 193, A. G. O., August* 22, 1883.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

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